

DEPARTMENT
OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT SUPPORT
AND GENERAL SUPPORT MAINTENANCE
MANUAL INCLUDING REPAIR PARTS LIST

FOR

REPAIR KIT HOSE ASSEMBLY
MODEL NUMBER: SEHARK
(NSN 4940-01-080-4213)

HEADQUARTERS,
DEPARTMENT OF THE ARMY MARCH 1984

WARNING PAGE

Always disconnect machine from power source before servicing.

Table of Contents

	Page
SECTION I. Nose Cutoff Machine Operating Instructions	1
SECTION II. Skiving Tool	5
SECTION III. Portable Hose Assembly Machine	7
SECTION IV. Assembly Instructions	11
APPENDIX A Parts List	A-1

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2, located in the back of this manual direct to: Commander, US Army Armament, Munitions and Chemical Command, ATTN: DRSMC-MAS, Rock Island, IL 61299. A reply will be furnished directly to you.

Operator, Organizational, Direct Support and General Support Maintenance Manual Including Repair Parts List for:

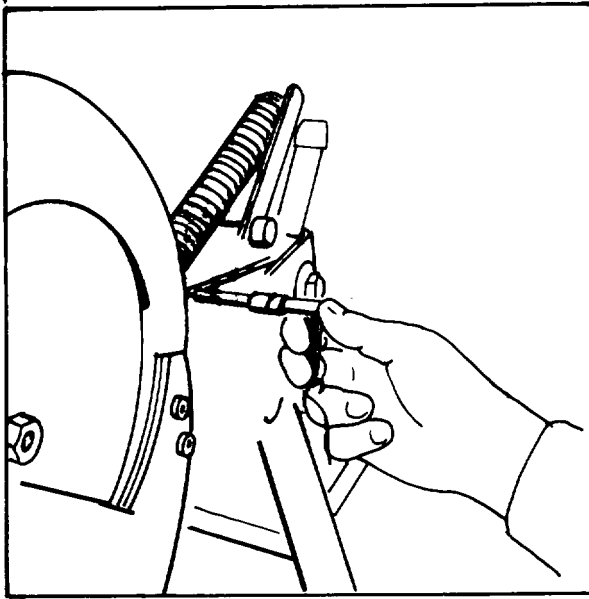
Repair Kit Hose Assembly
Model SEHARK
(NSN 4940-01-080-4213)

NOTE

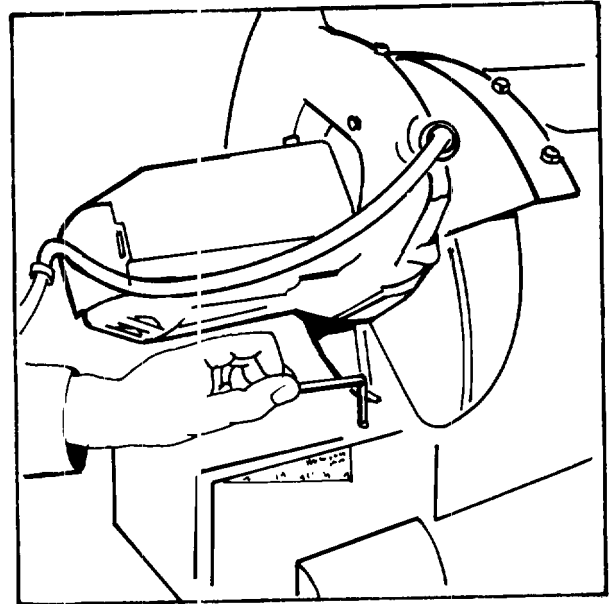
This manual is published for the purpose of identifying an authorized commercial manual for the use of the personnel to whom this equipment is issued.

Manufactured by: Parker Hannifin Corporation
Hose Products Division 30240 Lakeland Boulevard
Wickliffe, OH 44092
Procured under Contract No. DAAA09-80-C-4432

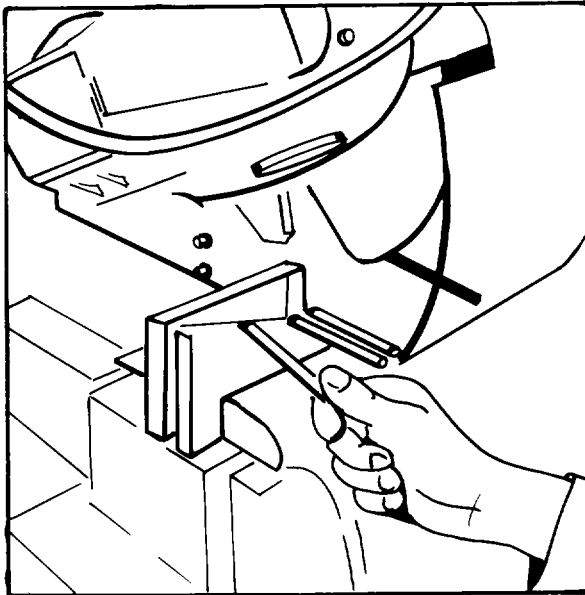
Hose Cut-off Machine Operating Instructions



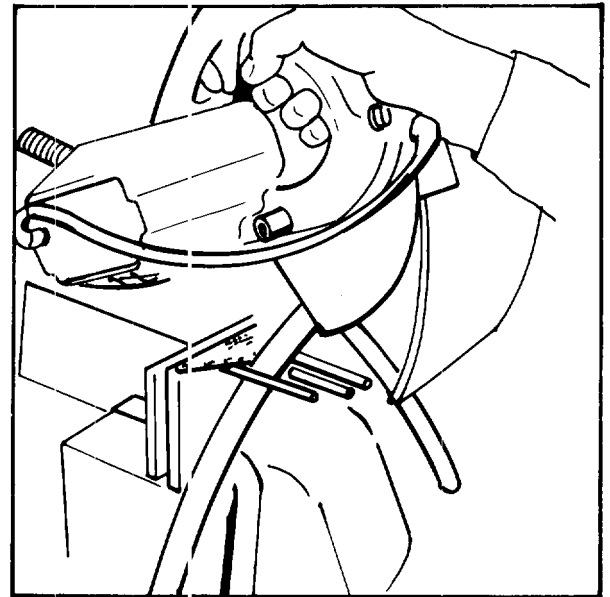
1. Mount the cut-off machine securely in a vise. Remove the quick release pin.



2. Set depth adjustment screw so the blade extends no more than 1/8" below hose to be cut.



3. Place table pins in the proper holes of the hose plate for the size of hose to be cut.

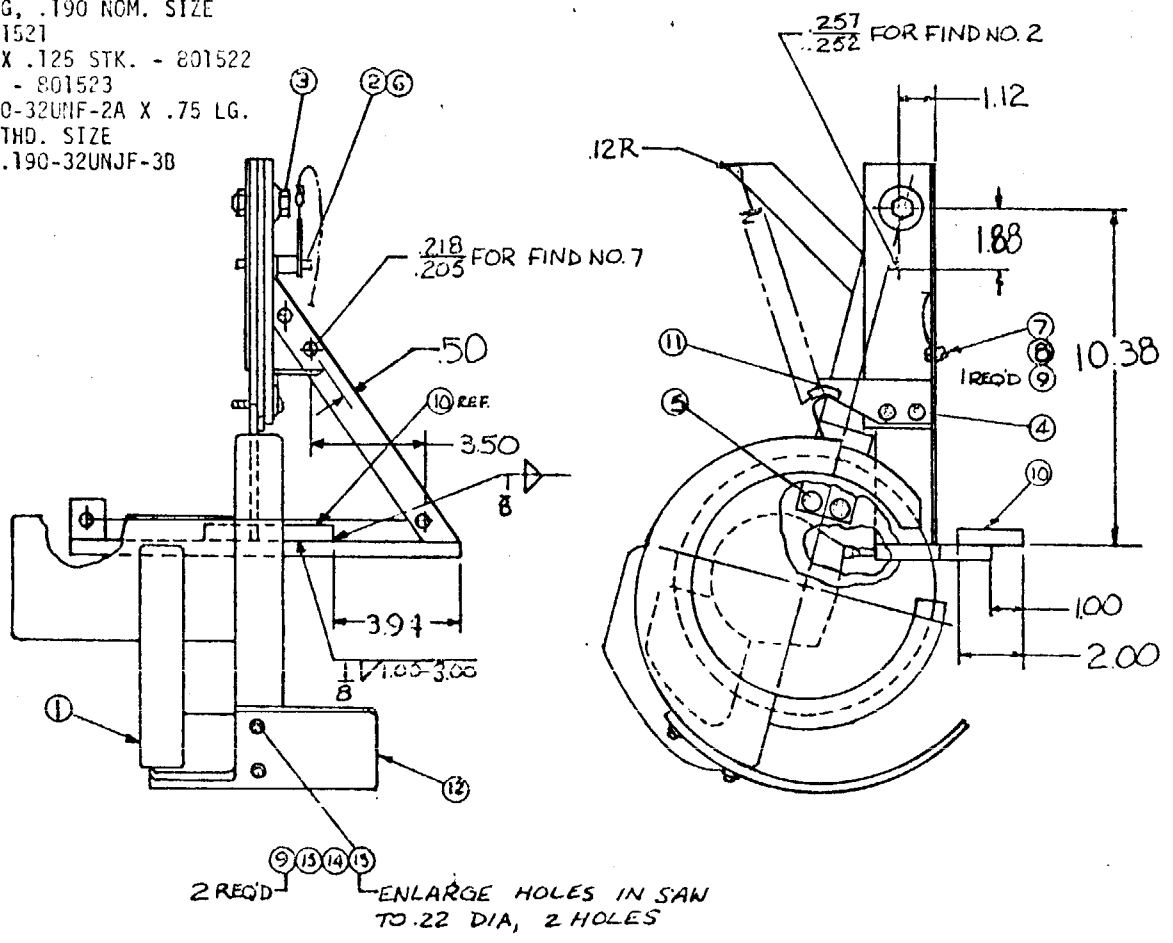


4. Grip the handle firmly and turn on the electric switch. Cut the hose with a light, continuous pressure. Never force the machine.

801520

TM 9-4940-544-148P

ITEM	PART NUMBER	QTY	DESCRIPTION
1	13221E6832	1	POWER SAW, HOSE CUTTER - 801524
2	MS17006-409	1	PIN, QUICK RELEASE, .250 NOM. DIA.
3	MS90725-113	1	SCREW, HEX HD., .500-13UNC-2A X 1.50 LG.
4	MS35206-284	2	SCREW, PAN HD., .250-20UNC-2A X 1.25 LG.
5	MS35191-294	2	SCREW, FLAT HD., .250-20UNF-2A X 1.25 LG.
6	MS17339-1	1	CABLE, SAFETY 6.00 LG.
7	MS35207-262	1	SCREW, FLAT HD., .190-32UNF-2A X .438 LG.
8	MS35650-302	1	NUT, HEX., .190-32UNF-2B
9	MS35338-43	3	WASHER, LOCK, SPRING, .190 NOM. SIZE
10	M1020	1	BAR, .50 STK., - 801521
11	ALY 6063-T5	1	ANGLE, 1.50 X 1.50 X .125 STK. - 801522
12	13221E6700	1	SHIELD, HOSE CUTTER - 801523
13	MS51958-65	2	SCREW, PAN HD., .190-32UNF-2A X .75 LG.
14	AN 950-10	2	WASHER, FLAT, .190 THD. SIZE
15	MS21083N3	2	NUT, SELF-LOCKING, .190-32UNF-3B

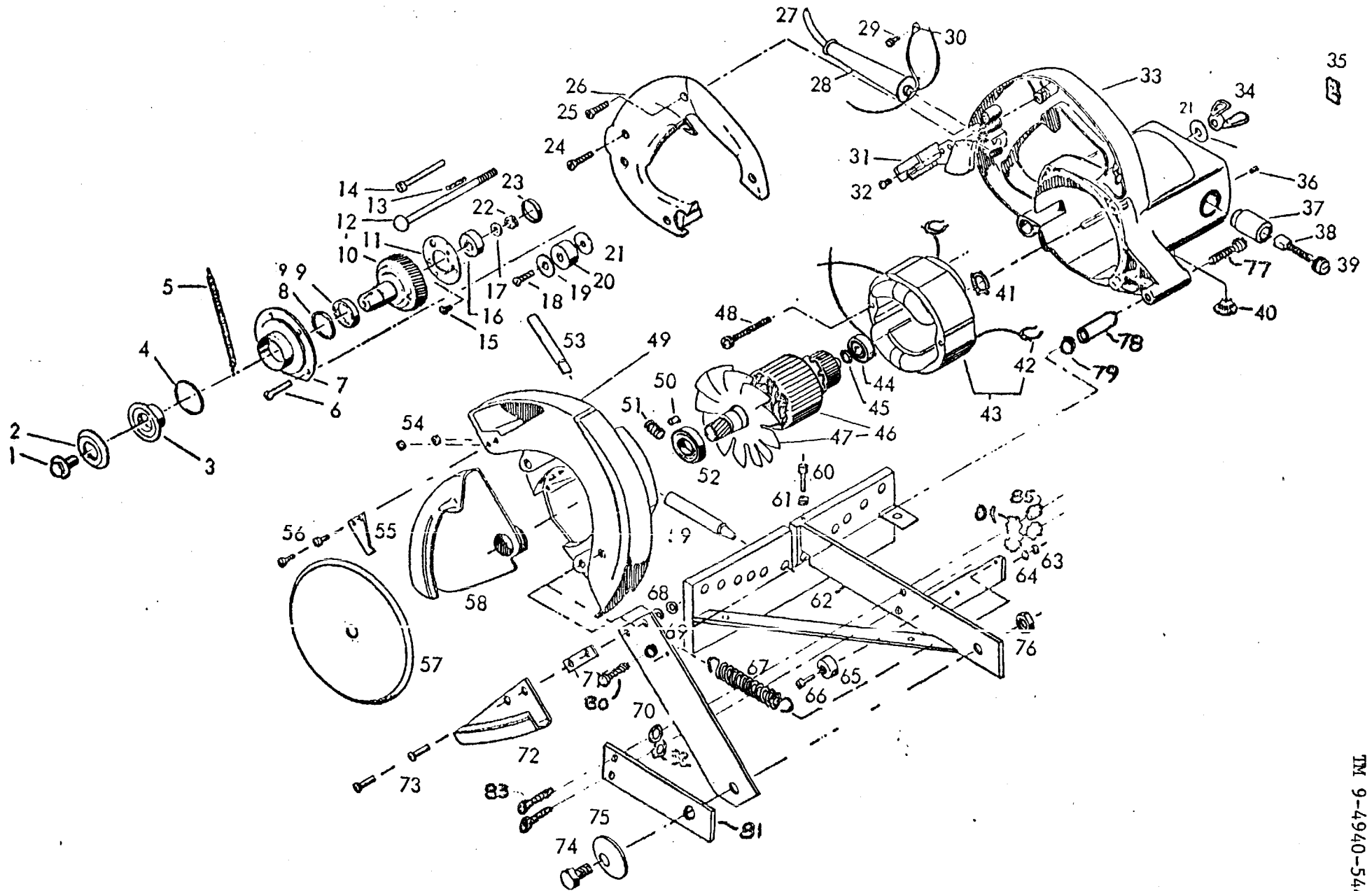


REF: 13221E6701

MATERIAL	STOCK SIZE	HEAT TREAT	FINISH	SCALE	DRAWN	DATE	CHECKED	DATE	APPROVED	DATE	C. N. NO.	REV.
				2/0	R/SP	3-12-80			L.M.	3/17/80		
TITLE POWER SAW ASSEMBLY, HOSE CUTTER										SIZE NO. A 801520	REV.	

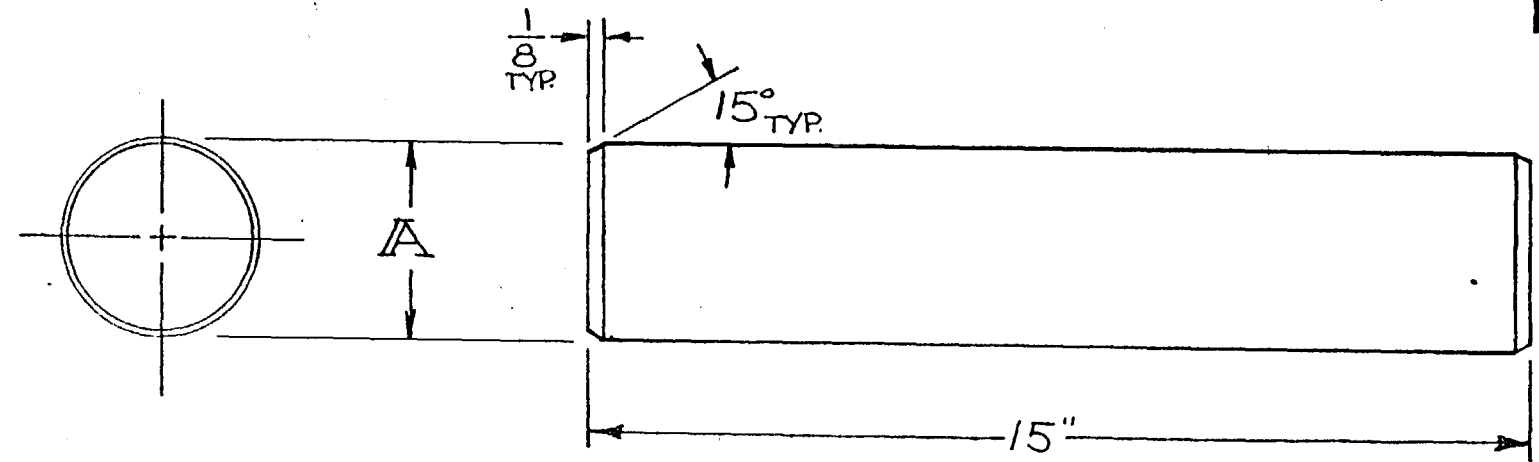
BREAKDOWN

801524 SAW



801519

TM 9-4940-544-14&P

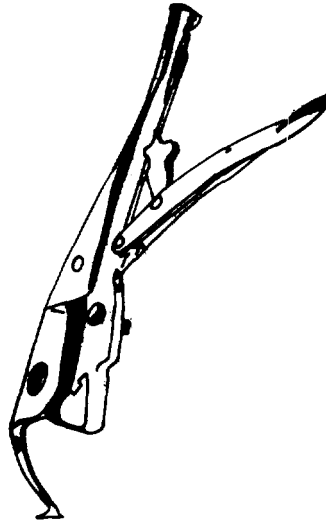


PART NO.	NOMINAL SIZE	A ^{+0.002} / _{-0.005}	B WALL
801519-4	1/4	.242	*
801519-6	3/8	.367	*
801519-8	1/2	.485	**083
801519-12	3/4	.735	**095
801519-16	1	.985	**120

MATERIAL:
 * S65, RD. STOCK IN NOMINAL SIZE
 ** LOW CARBON STEEL TUBING PER
SAE J525

NOTED	NOTED		CDI & BAKE										
MATERIAL	STOCK SIZE	HEAT TREAT	FINISH	SCALE	DRAWN	DATE	CHECKED	DATE	APPROVED	DATE	C. N. NO.	LET.	DATE
				40	RJP	3-17-80			L.M.	3/18/80			
TITLE										SIZE	NO.	REV.	
801519-X HOSE MANDREL										A	801519	1	

Skiving Tool 7S1126



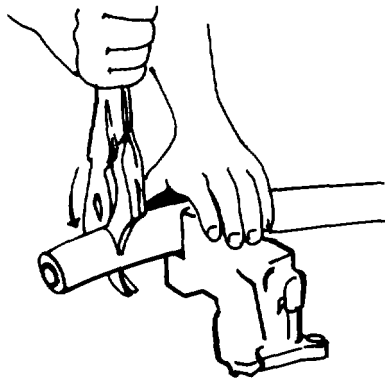
For use on spiral hose through 2" I.D.

INSTRUCTIONS FOR SKIVING TOOL 7S1126

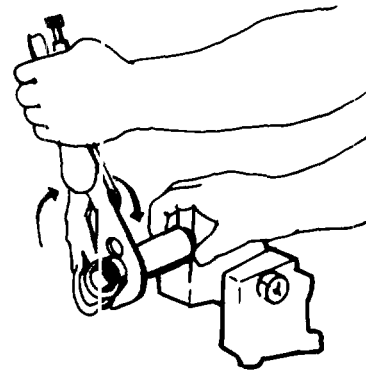
Measure and mark skive length on hose with chalk or marker. Accurate skive length is very important.

Clamp hose firmly, without crushing, in a vise or by other means. The use of an arbor or mandrel may be required on small diameter hose and care must be taken not to damage inner wall during insertion.

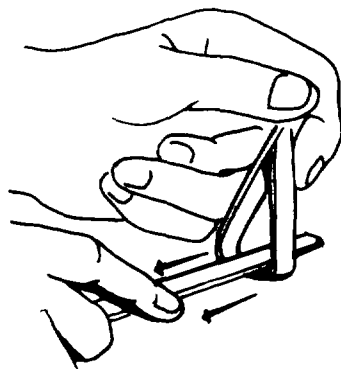
Adjust tension screw in handle for correct penetration through cover down to wire reinforcement.



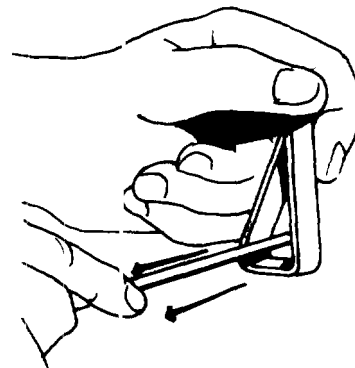
Make initial cut counter-clockwise. This must be square to ensure proper seating of the coupling.



After initial cut, reverse tool and make remaining cuts in a clockwise direction until cover is removed.



To sharpen, remove cutter from tool and smooth burrs by drawing a flat file away from the inside as shown.

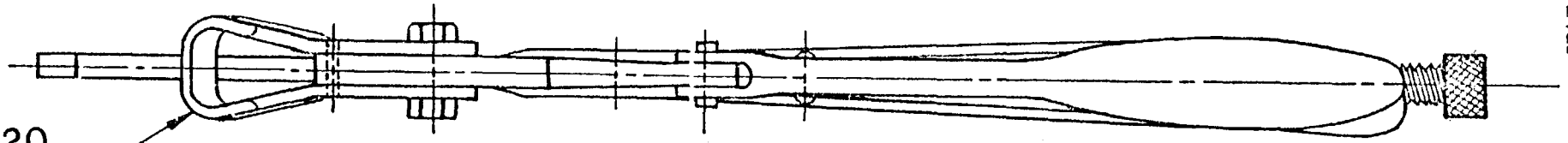


After removing bottom burrs, repeat procedure with a round file for the corners.

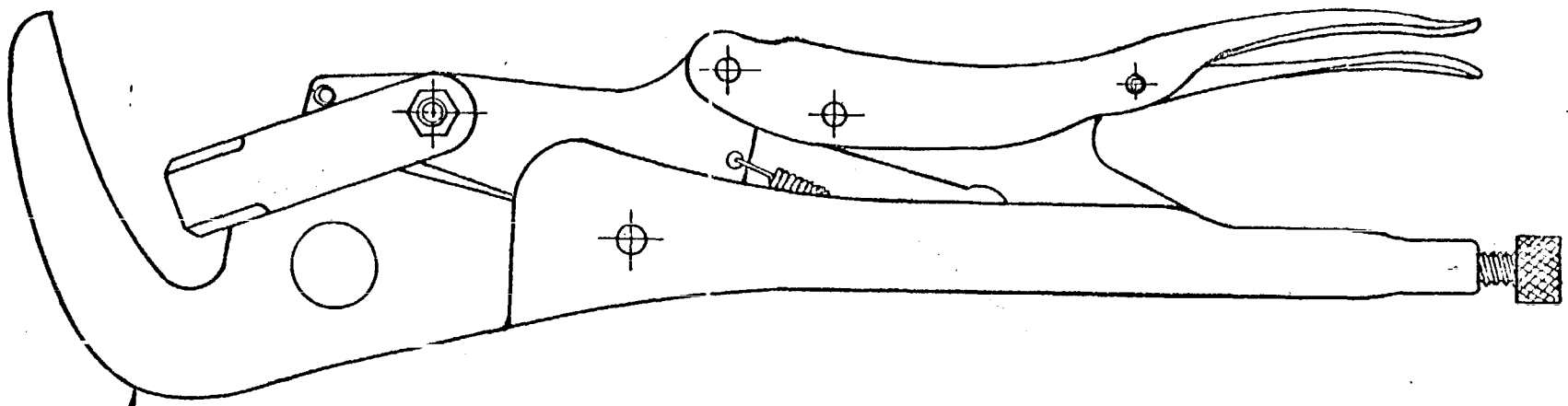
Note: File burrs from the inside toward the outside **only**, otherwise the cutting surface may be damaged.

801529

TM 9-4940-544-14&P



7S1120
CUTTER



7S1123
FRAME ASS'Y

REF: CATERPILLAR P/N 7S1126

~	~	~	~
MATERIAL	STOCK SIZE	HEAT TREAT	FINISH

SCALE X	DRAWN P.M. Miguet	DATE 3-25-80	CHECKED	DATE	APPROVED L.M.	DATE 3/25/80
------------	----------------------	-----------------	---------	------	------------------	-----------------

C. N. NO.	LET.	DATE

TITLE 801529-SKIVING TOOL	SIZE A	NO. 801529	REV.
------------------------------	-----------	---------------	------

Portable Hose Assembly Machine

Description & Specifications

Description

The Portable Hose Assembly Machine (Fig. 1) is designed for low production assembly of hose and reusable fittings in sizes from $\frac{3}{16}$ " through $2\frac{1}{2}$ " in the single wire braid style, and from $\frac{3}{16}$ " through 2" in the double wire braid and 4 spiral wire styles. This machine will accommodate male pipe, swivel, flange and elbow type fittings.

Power is supplied by a 115 Volt A.C. (only) 25-60 Hz Universal Motor. The characteristics of this motor are such that the speed decreases as torque output increases. A motor is also available for 230 Volt operation. A mechanical interlock with selector switch prevents starting machine with top guard open and from opening top guard while machine is operating.

This machine is compact, lightweight, and highly portable. Machine can be bench mounted, or if portability is needed, a folding leg stand is available. With it, complete hose assemblies can be turned out quickly and easily, helping to reduce downtime and avoid delays.

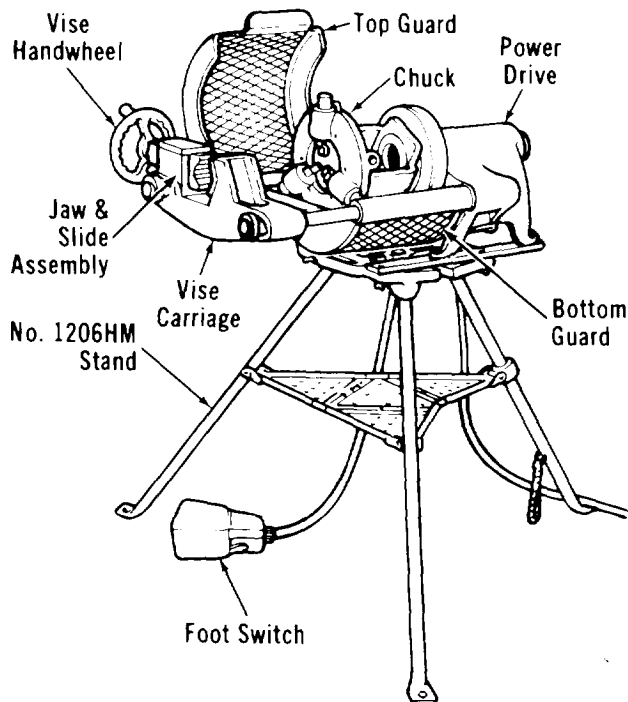


Figure 1. Portable Hose Assembly Machine and Stand.

Specifications

Motor	.....115v, AC (only) 25-60 Hz reversible universal (230v optional)
Selector Switch	..... REV/OFF/FOR, heavy-duty
Foot Switch	..... on-off motor control
Chuck	..... wrench-type, universal
Power Source	..... .30 amp rated circuit
Weight w/o Stand	.....141 lbs.
Dimensions w/Stand:	
Length	..... 56 in.
Width	.....46 in.
Height	.....45 in.
Jaw Insert Capacity	.....$\frac{3}{16}$ " through 2" Sockets and Fittings

Accessories

No. 1206HM Stand	..... folding w/tray
Weight	.....29 lbs

Safety Precautions

1. Know your machine. Read Instruction Manual carefully. Know the limitations, as well as, the specific potential hazards peculiar to this machine.
2. Avoid accidental starting. Make sure Foot Switch operates freely before plugging in Power Cord.
3. Ground Machine (Fig. 2). This machine should be grounded while in use to protect the operator from electric shock. The machine is equipped with an approved three-conductor cord and three-prong grounding type plug to fit proper grounding type receptacle. The green (or green and yellow) conductor in cord is the grounding wire. Never connect green (or green and yellow) wire to a live terminal. If your unit is for use on less than 150 volts, it has a plug like that shown in Panel "A", (115v). If it is for use on 150 to 250 volts, it has a plug like that shown in Panel "A", (230v).
4. Remove tools from machine. Form habit of checking to see that machine is clear of wrenches or other tools before operating.

5. Wear proper apparel. Wear safety shoes, hard hat and safety glasses. No loose clothing (unbuttoned jackets or loose sleeve cuffs) or jewelry to get caught in moving parts.
6. Do not overreach. Operate machine from Foot Switch side only. Keep proper footing and balance, Be sure foot can be removed safely from Foot Switch at all times. Do not reach across machine and keep hands, body and tools away from moving parts.
7. Keep work area clean. Cluttered work areas, benches, and slippery floors invite accidents
8. Avoid dangerous environment. Do not use machine in damp and wet locations Keep work area well luminated. Allow sufficient space to operate machine and accessories properly and for others to pass safely
9. Keep visitors away. All visitors should be kept a safe distance from work area
10. Disconnect Power Cord. When not using machine for any length of time, or before adjusting, servicing, or changing Chuck Jaw Inserts, disconnect Power Cord Cords should be in top condition and examined at regular intervals.

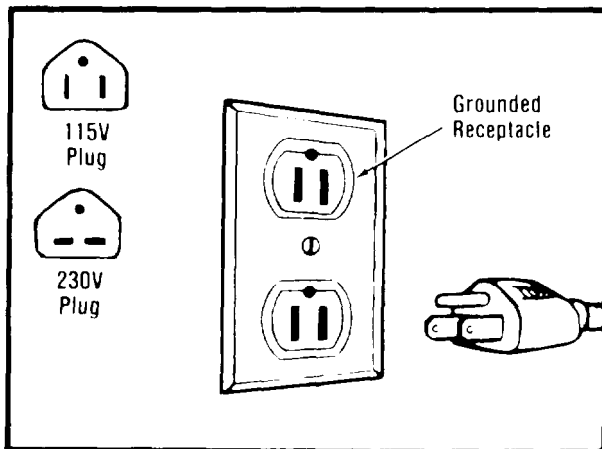


Figure 2. Machine Grounding Instructions.

Operating Instructions

Before Operation

- Warning
1. Make certain that machine is stable and that Retaining Ring Assemblies (Fig. 4) are securing Vise Carriage onto Support Bars.
 2. Operator should be thoroughly familiar with Safety Precautions before attempting to operate this equipment.

Assembling Socket to Hose

1. Open Top Guard and place socket with large end outward in chuck (Fig. 3).
2. Tighten socket in chuck using Chuck Wrench (Fig 3).
3. Remove Chuck Wrench and close Top Guard (Fig. 3).

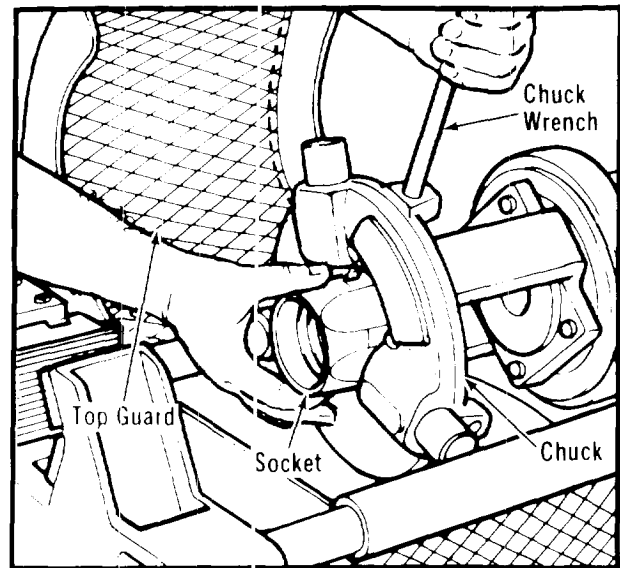


Figure 3. Tightening Socket in Chuck.

- 4 Clamp hose in vise (Fig. 4). Do not deform hose by clamping too tight.

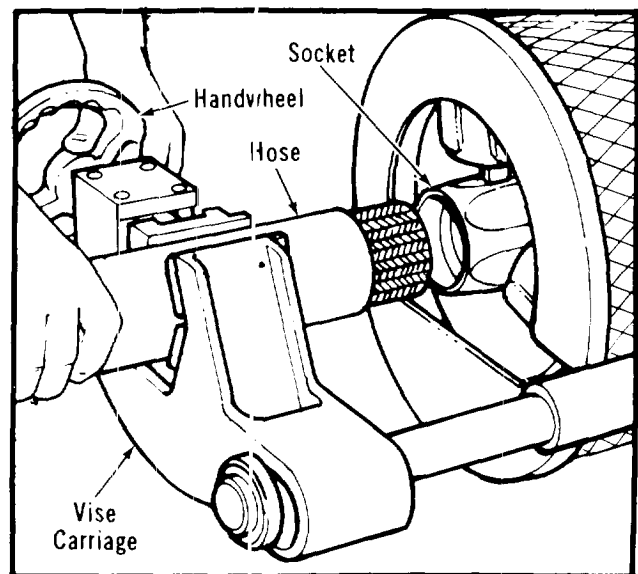


Figure 4. Clamping Hose in Vise.

Note: The Selector Switch (Fig. 5) only prepares machine for operation, either forward or reverse. The Foot Switch must be activated for machine to operate. If operator removes his foot from Foot Switch the power unit will automatically stop.

5. Flip Selector Switch to "SOCKET ON" position (Fig. 5).

Note: To disassemble socket from hose move Selector Switch to "SOCKET OFF" position.

6. Step on Foot Switch (Fig. 1).

Important: Never reverse Selector Switch and step on Foot Switch until chuck has completely stopped to prevent damage to Motor.

7. Push on Vise Carriage (Fig. 4) to start hose into socket.
8. Release Foot Switch when hose is assembled to socket.
9. Loosen Vise and Chuck and remove socket with hose.

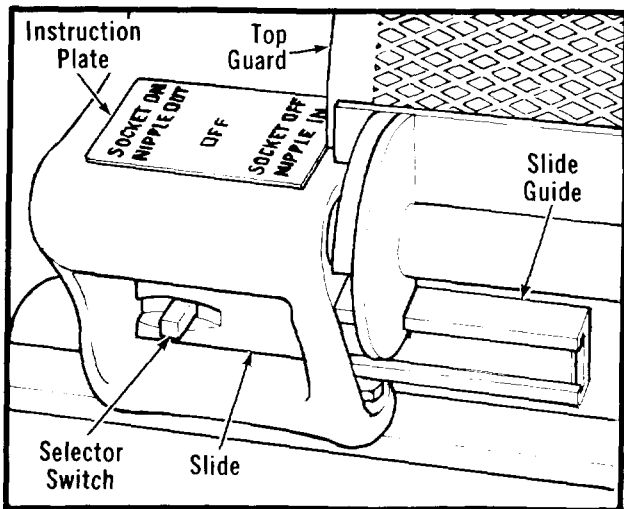


Figure 5. Selector Switch and Instruction Plate.

Assembling Nipple to Socket

1. Apply lube to end of nipple and inside of hose.
2. Install Chuck Jaw Inserts, if required.
3. Clamp nipple in chuck (Fig. 6) using Chuck Wrench.
4. Remove Chuck Wrench and close Top Guard (Fig. 3).
5. Clamp socket with hose in vise (Fig. 6).
6. Flip Selector Switch (Fig. 5) to "NIPPLE IN" position.

Note: To disassemble nipple from socket flip Selector Switch to "NIPPLE OUT" position.

7. Step on Foot Switch (Fig. 1).

Important: Never reverse Selector Switch and step on Foot Switch until chuck has completely stopped to prevent damage to motor.

8. Push on Vise Carriage to start socket on nipple.
9. Release Foot Switch when socket starts to cross thread undercut and allow socket to coast up to nipple hex (Fig. 6).

Important: Never bottom socket against nipple hex with power on.

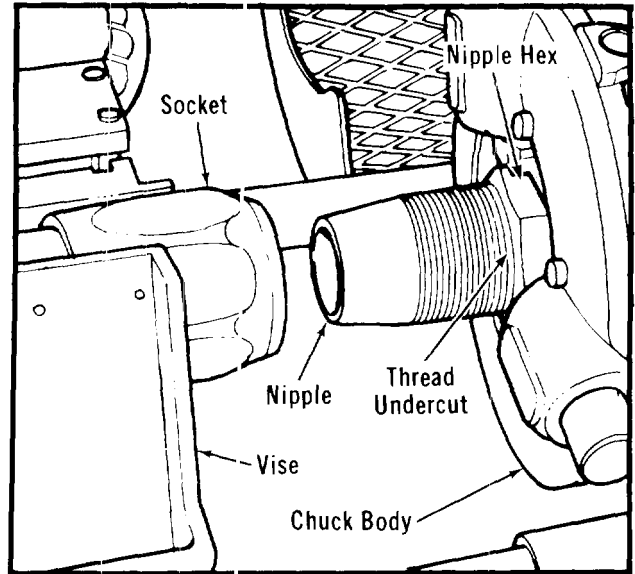


Figure 6. Assembling Nipple to Socket.

Chuck Jaw Inserts

Position Chuck Jaw Inserts as shown in Panel "B", Figure 7 to assemble nipples in sizes $\frac{3}{16}$ " through 1". For smaller size bent tube nipples position Chuck Jaw Inserts as shown in "A" or "B" as required. Larger bent tube ends do not require use of Chuck Jaw Inserts.

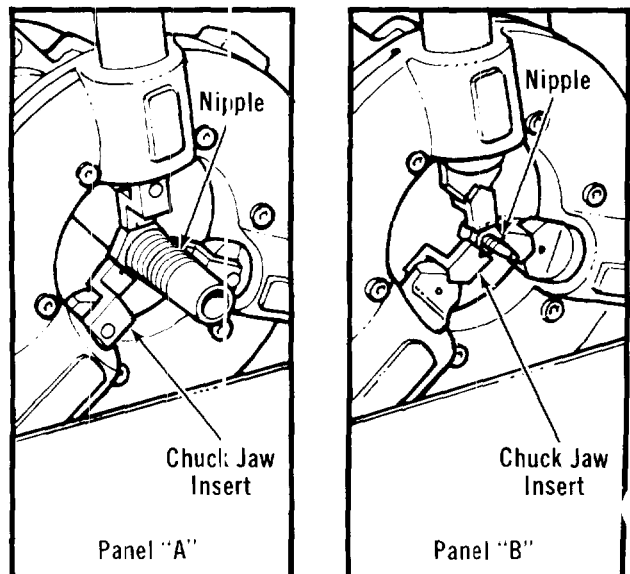


Figure 7. Chuck Jaw Insert Positions.

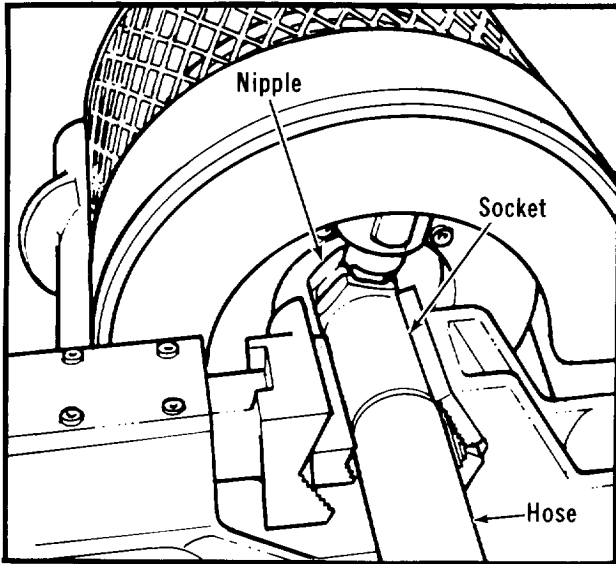


Figure 8. Assembled Hose, Socket, and Nipple.

Maintenance Instructions

Warning: Always disconnect machine from power source before servicing.

General Care

Periodically check machine for loose bolts and screws. Maintain Power Cord and Foot Switch Cord in top condition. Check frequently.

Lubrication

Proper lubrication is essential to trouble-free operation and long life of Portable Hose Assembly Machine.

1. Grease main shaft bearings every 6 months or oftener if subject to hard use.

Note: Grease Fittings are provided on side of base, one at each end of shaft. Use a good grade of cup grease.

2. Disassemble, clean, and grease Chuck Jaws and Inserts yearly.
3. Lubricate Vise Assembly as required for smooth operation.

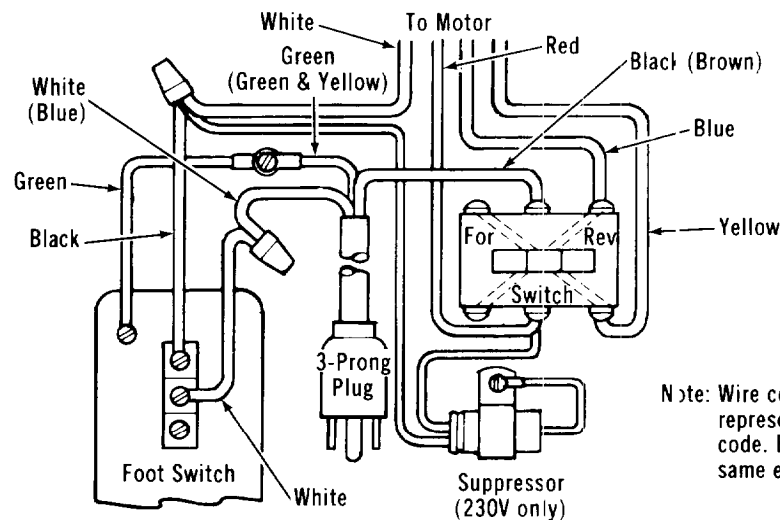
Motor Brush Replacement

Check Motor Brush Assembly every 6 months and replace when worn to less than $\frac{1}{2}$ inch. If Commutator is worn, turn O.D. of Commutator and undercut mica before replacing Brush Assembly.

Motor Replacement

1. Remove two Screws holding Switch Box.
2. Remove two Screws holding Motor.
3. Loosen Lock Screw in body at neck of Motor.
4. Lift Switch Box and Motor out.
5. Loosen Switch Box Connector holding motor wires.
6. Remove red, yellow and blue motor wires on switch.
7. Disconnect Wire Nut.

Note: Motor is now free from Power Drive.



Note: Wire colors in parenthesis represent European color code. European cord the same except for plug.

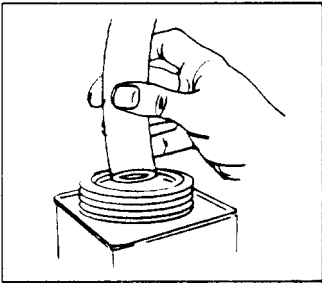
Figure 9. Portable Hose Assembly Machine Wiring Diagram.

Assembly Instructions - 30 Series

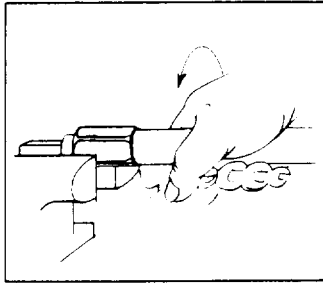
Hose to be skived to the following lengths. (*)

<u>Fitting Size</u>	<u>Skive Length</u>
20630-4-4	7/8"
- 5 - 4	7/8"
- 6 - 6	1"
- 8 - 6	1"
- 8 - 8	1 3/16"
- 10 - 8	1 3/16"
- 12 - 12	1 1/4"
- 16 - 16	1 9/16"

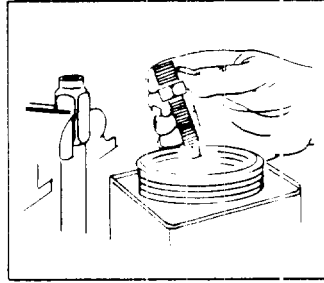
(*) SAE 100R2 Type AT (such as 301 hose) does not have to be skived when using "NO-SKIVE" fittings above.



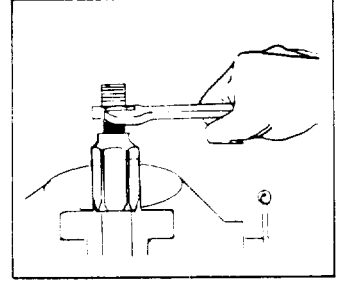
Dip hose into Heavy Oil, (NSN 9150-00-186-6681).



Place socket vise as shown. Thread hose counter-clockwise into socket until hose bottoms. *Back off 1/2 turn.*



Dip hose end of nipple into Heavy Oil, (NSN 9150-00-186-6681) up to hex.



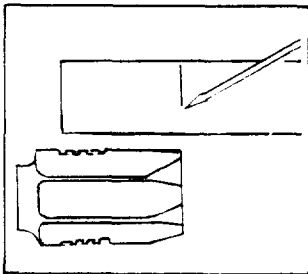
Thread nipple clockwise into socket until nipple hex shoulders against socket.

Assembly Instructions - 74 Series

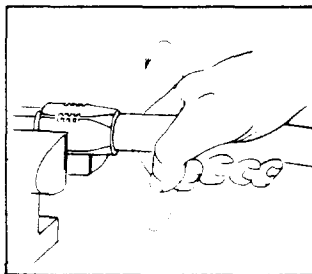
Hose to be skived to the following lengths.*

<u>Fitting Size</u>	<u>Skive Length</u>
20674-20-20	3 5/6"
20674-24-24	3 1/16"

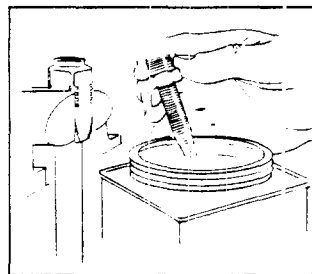
* 741/751 hose in sizes -20 and -24 not have to be skived when using "NO-SKIVE" fittings above.



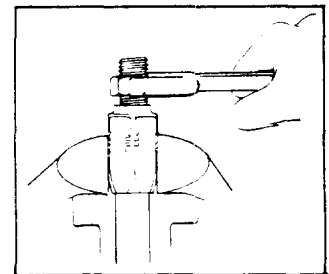
To measure hose entry, lay socket alongside hose end. Line up first notch on the socket with the end of the hose. Mark hose at end of socket. This will be hose entry length.



Place socket in vise as shown. Dip hose in Heavy Oil, (NSN 9150-00-186-6681). Screw hose counter-clockwise into socket until you reach mark on hose.

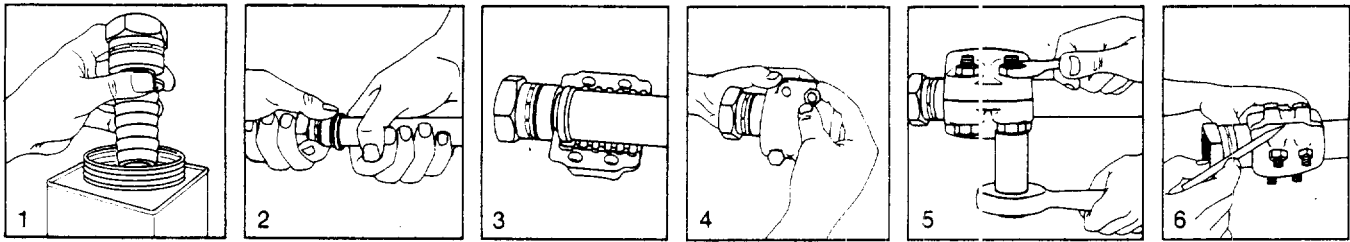


Dip hose end of nipple into Heavy Oil, (NSN 9150-00-186-6681) up to hex.



Thread nipple clockwise into socket until nipple hex shoulders against socket.

Assembly Instructions - 75 Series (*)



1. Lubricate hose I.D. and nipple.
2. Insert nipple into hose until bottomed on nipple channel.
3. Place clamp halves over hose with clamp front collar in nipple channel.
4. While holding clamp halves in place, drop the 4 bolts through holes in clamp halves Turn nuts finger tight.
5. Tighten nuts down evenly with box or open-end wrench. An impact tool with thin wall wrench sockets may also be used. Running one nut all the way down without partly tightening the others will distort the clamps and may break the bolt.
6. Tighten nuts until clamp halves are flush (in contact with each other with no space between the halves). Assembly is complete.

(*) DO NOT SKIVE hose for 75 series clamp type fittings.

APPENDIX A

NSN: 4940-01-080-4213
 Repair Kit-Hose Assembly

CONSISTS OF THE FOLLOWING:

1	432	Hozemblem	10	01C3-4-4
1	801529-	Hose Skiver	10	01C3-6-6
1	801524-	Karry Kut + 580661 Blade	15	0103-8-8
1		Hose Oil	10	0103-12-12
			10	0103-16-16
60'	301-4	Hose	2	0103-20-20
100'	301-6	"	2	0103-24-24
100'	301-8	"		
100'	301-12	"	5	0503-5-5
60'	301-16	"	5	0503-6-6
			5	0503-8-8
20'	751-16	Hose	5	0503-10-10
20'	751-20	Hose	5	0503-12-12
20'	751-24	Hose	5	0503-16-16
10'	751-32	Hose		
			5	0303-5-5
10	20630-4-4		5	0303-6-6
15	20630-5-4		5	0303-8-8
15	20630-6-6		5	0303-10-10
15	20630-8-6		5	0303-12-12
15	20630-8-8		5	0303-16-16
15	20630-10-8			
15	20630-12-12		1	801519-4 Mandrel
10	20630-16-16		1	801519-6 "
			1	801519-8 "
2	20674-20-20		1	801519-12 "
2	20674-24-24		1	801519-16 "
4	41575-16-16			
4	41575-20-20			
4	41575-24-24			
2	41575-32-32			
2	41775-16-16			
2	41775-20-20			
2	41775-24-24			
2	41775-32-32			
2	41975-16-16			
2	41975-20-20			
2	41975-24-24			
2	41975-32-32			
2	51H-16			
2	51H-20			
2	51H-24			
2	51H-32			

Table of Contents

Standards and Specifications A-3

Hose Working Pressure Chart...A-4

Hose and Fitting Fluid Compatibility ChartA-5

Hose Fitting End Configuration Identification ChartA-8

No-Skive Hose and FittingsA-9

Low Pressure Hose and Fittings

 82 Series Push-LokA-10

 88 Series Suction-Return-SAE 100R4A-21

Medium Pressure Hose and Fittings

 20 Series-Single Wire Braid-SAE 100R5 and SAE J1402CA-27

 42 Series-No-Skive-SAE 100RITA-45

 51 Series-Nylon-SAE 100R7A-53

High Pressure Hose and Fittings

 30 Series-2 Wire Braid No-Skive-SAE 100R2ATA-61

Very High Pressure Hose and Fittings

 34 Series-Four Spiral No-Skive-SAE 100R9AT A-70

Extreme High Pressure Hose and Fittings

 74 Series-Four Spiral No-SkiveA-78

 75 Series-Four Apiral Clamp Type-SAE 100R10A-83

Super High Pressure Hose Assemblies

 76 Series-Six Spiral Permanent-SAE 100R11 A-89

Special Applications

 90 Series Hose of Teflon and Fittings A-93

 86 Series Railroad Airbrake Hose and Fittings A-103

 Ferrul-Fix Fitting Installation A-104

 PFT Nylon Tubing SAE J844; Fuel Line Check Valves. A-105

 Tractor-Trailer Airbrake Coils; Hose Frame Fittings A-106

 Heater Hose A-107

Hydraulic Swivels A-108

Accessories

 O-RingsA-113

 Flange Kits, Flange HalvesA-114

 Spring Guards, Hose Clamps, FiresleeveA-115

Quick Disconnect CouplingsA-118

AdaptersA-120

Hose Assembly EquipmentA-138

Fitting Sizing ChartA-143

Hose and Fitting Selection

Standard	Part Number	Description
SAE Standards - Hose		
J51	241,231,235	Hose, refrigerant
J844, Type 3A	PFT-A	Nylon Tubing, air brake, non-reinforced
J844, Type 3B	PFT-B	Nylon Tubing, air brake, reinforced
J1402, Type D, Class I	201 261	Hose, single wire braid Hose, single wire braid
J1402, Type D, Class II	SS25	Hose, engine, air brake
J517, 100R1, Type T	421	Hose, single wire braid
J517, 100R2, Type AT	301	Hose, double wire braid
J517, 100R4	881	Hose, suction and return
J517, 100R5	201	Hose, single wire braid
J517, 100R7	510A 518A	Hose, double nylon braid Hose, double nylon braid non-conductive
J517, 100R9, Type AT	341	Hose, four light spiral wire
J517, 100R10	751,741-20,-24	Hose, four heavy spiral wire
J517, 100R11	761	Hose, six heavy spiral wire
SAE Standards - Hose Fittings		
J516	All hose fittings used with hoses listed under J517 above.	
SAE Standards - Hose Adapters		
J512, 010102	0104	Pipe/45° flare
J512, 010103	0204	Pipe/45° flare
J512, 010202	2104	Pipe/45° flare
J512, 010203	2204	Pipe/45° flare
J514, 070101	0303	37° flare/37° flare
J514, 070102	0103	37° flare/pipe
J514, 070103	0203	37° flare/pipe
J514, 070109	03P	37° flare plug
J514, 070110	06B	Short nut
J514, 070112	06C	Cap nut
J514, 070115	06S	Tube sleeve
J514, 070118	53N	Lock nut
J514, 070119	03L3	37° flare/37° flare
J514, 070122L	5E03	37° flare/str. thrd. O-ring
J514, 070122S	0503	37° flare/str. thrd. O-ring
J514, 070123	0603	37° flare/flare swivel
J514, 070201	2303	37° flare/37° flare
J514, 070203	2203	37° flare/pipe
J514, 070220	2503	37° flare/str. thrd. O-ring
J514, 070221	3903	37° flare/str. thrd. O-ring
J514, 070302	3103	37° flare/pipe
J514, 070320	3503	37° flare/str. thrd. O-ring
J514, 070321	3703	37° flare/37° flare swivel
J514, 070401	033T	37° flare/37° flare
J514, 070424	013T	37° flare/pipe
J514, 070425	213T	37° flare/pipe
J514, 070426	023T	37° flare/pipe
J514, 070427	223T	37° flare/pipe
J514, 070428	053T	37° flare/str. thrd. O-ring
J514, 070429	253T	37° flare/str. thrd. O-ring
J514, 070432	063T	37° flare/37° flare swivel
J514, 070433	393T	37° flare/37° flare swivel
J514, 070501	033X	37° flare/37° flare
J514, 070502	5603	37° flare/pipe
J514, 070601	0353	37° flare/37° flare bulkhead
J514, 070701	2353	37° flare/37° flare bulkhead
J514, 070801	3353	37° flare/37° flare bulkhead
J514, 090109	05CP	Str. thrd. O-ring plug

All 37° Flared Hose Adapters meet JIC and ASME Standards, MIL-F-18866, MIL-F-5506, MS51500 through MS51534.

**MSHA — Mine Safety and Health Administration (Formerly MESA).

Standard	Part Number	Description
Hose Adapters <i>continued</i>		
J516, 140130	0107	Pipe/pipe swivel
J516, 140131	0207	Pipe/pipe swivel
J516, 140230	2107	Pipe/pipe
J516, 140330	3107	Pipe/pipe
J926, 140137	0101	Pipe nipple
J926, 140138	0202	Pipe/pipe
J926, 140139	0201	Pipe/pipe
J926, 140140	0102	Pipe reducer
J926, 140238	22C2	Pipe/pipe
J926, 140239	21C2	Pipe/pipe
J926, 140338	42C2	Pipe/pipe
J926, 140339	31C2	Pipe/pipe
J926, 140424	012T	Pipe/pipe
J926, 140425	212T	Pipe/pipe
J926, 140438	022T	Pipe/pipe
Military Specifications		
MIL-H-13444, Type 1	831M	Hose, single fiber braid
MIL-H-13531 Type 1, Class A	421M	Hose, single wire braid
Type I, Class B	421MNS	Hose, single wire braid, no-skive
Type II, Class A	301M	Hose, double wire braid
Type II, Class B	301MNS	Hose, double wire braid, no-skive
MIL-H-24135 Class I	MIL-H-24135 Class I	Hose, double wire braid, skive
MIL-H-24135 Class II	MIL-H-24135 Class II	Hose, four light spiral wire wrap, skive
MIL-H-52471 Type C	751	Hose, four heavy spiral wire wrap (size -16 thru -24)
MIL-C-52525	75 Series	Hose fitting for 751 hose
Military Standards (MS Numbers)		
Railroad Standard		
AAR-M618	86°, 861A	Hose, railroad air brake
Underwriters Laboratories - Marine Division		
Fuel Lines	SS25 with Firesleeve; 421 with Firesleeve	
Hydraulic, Air, Water, Lube Lines	SS25, 421 without Firesleeve	
**MSHA (U.S. Bureau of Mines)*		
Fluid Power Systems	22°, 301, 305, 341, 381, 421, 741, 751, 761	
Heater Hose		
RCCC recommended practice SAE J20e PT III 20R3 Federal Spec 22H428 Type VI	84° HT, 848	
U.S. Coast Guard		
<i>Regulation 46 CFR 56.60-25 Flexible Hose</i>		
Fuel and Lube Oil	SS25 with Firesleeve, 421 with Firesleeve	
Fluid Power Systems	22°, 421, 301, 305, 341, 741, 751, 761	
Underwriters Laboratories		
LP Gas	SS25UL; 2LPG	
D.O.T. (U.S. Dept. of Transportation) FMVSS 106-74		
D.O.T. FMVSS 106-74		
Air Brakes	SS25; 201; 261; PFT Tubing	

*Note: All Hose meeting the **MSHA specification is marked; regarding unmarked hose.

Hose Selection

Hose Size by Recommended Maximum Working Pressures

This chart can be used as a guide in selecting a hose by size and recommended working pressure. In addition to pressure, other factors must also be considered in the selection of the proper hose (e.g. fluid compatibility, temperature, environment, etc).

FOR ADDITIONAL INFORMATION on a specific hose, consult the respective hose listing in this catalog.

Parker Hose Number	Listed on Page Number	Hose Dash Size (I.D.)													
		-2	-3	-4	-5	-6	-6.5	-8	-10	-12	-16	-20	-24	-32	-40
801	12			200		200		200	200	200					
821	12			350		300		300	250	250					
831	12			350		300		300	250	250					
881 w/HC clamp	22									100	70	50	50		
881 w/DB clamp	22									300	250	200	150	100	
861, 861A	102								300	300	300		300		
SS25UL	30			350	350	350		350	350	350					
2LPG	31			350	350	350		350	350	350					
SS25	30			1500	500	500		500	450	450	250	250			
231	29			500	500	500		500	500	500	400	400			
241	29			500	500	500		500	500	500	500	500	300	300	
235	29			875		750		625	625	625	440	375	375		
909	94			1000	750	625		500	425	300	200	175			
919	94			1500	1500	1500		1000	800	800	800	600			
261	30			2500	2250	2000		1850	1400	1200	600	500	250	250	
421	46			3000	2750	2500	2250	2250	2000		1250	1000			
510A	54			3000	2750	2500	2250		2000		1250	1000			
518A	54			3000	2750	2500	2250		2000		1250	1000			
201	28			3000	3000	2250		2000	1750	1500	800	625	500	350	350
204	28			3000	3000	2250		2000	1750	1500	800	625	500	350	
221	28			3000	3000	2250		2000	1750	1500	800	625	500	350	
304	62			4500	4500		3500	3000		2250	1875	1625	1250	1000	
301	62			5000	5000		4000	3500		2250	2000	1625	1250	1125	
305	62			5000		4000	3500		2250	2000	1625				
341	71					4500	4000		3000	2500					
344	71					4500	4000		3000	2500					
381	63			5800		5000	4500		3200	2550	2300	1875	1650		
741	79								5000	4000	3000	2500			
751	84									4000	3000	2500	2500		
754	84									4000	3000	2500	2500		
761	90									5000	3500	3000	3000		
841HT	106					50	50	50	50	50					
848	106					50	50	50	50	50					
PFT Tubing	104	150		150	150	150		150	150	150					

Hose and Fitting Selection

Hose Selection by Medium and Hose Type

This hose compatibility chart is a ready reference of Parker hose adaptability with various media. It is intended as a guide to chemical compatibility with the internal fluid and assembly lubricant applied internally. While all listings shown reflect known usage or authoritative sources, other factors may in some cases render them invalid. Final hose selection depends also upon pressure, fluid temperature,

ambient temperature, and special requirements or variations which may not be known.

Legal and other regulations applicable to footnotes (1), (2), (3) and (4) must be followed with particular care.

Use the Chart as Follows:

1. Locate medium to be carried.
2. Select suitability of hose and fitting material, using Resistance Rating Key.
3. Locate hose part number under Column I, II, III or IV below.
4. For fitting material availability refer to appropriate fitting section of catalog.
5. Check hose specifications in this catalog.

Resistance Rating Key

A = Preferred
F = Fair
X = Unsuitable
— = No recommendation

Numerals =

- (1) For high pressure inert gases, the cover should be *pin-pricked* and the pressure must not be released quickly. *Chain or restrain* the hose to prevent personal injury in the event of damage or failure.
- (2) Hose applications for anhydrous ammonia and fuels must take into account legal and insurance regulations. Use SS25 UL or 2LPG for liquified petroleum gas, butane, or propane.
- (3) Specify service (will be selected or compounded for the fluid).
- (4) Tube satisfactory but reinforcement attacked: unsuitable.
- (5) Water-Glycol fluids are compatible with either 301, 304 or 381 hose; however, 301 and 381 are recommended. Stainless steel or nickel-plated fittings preferred.
- (6) Special hoses are supplied for Freon 12, 22 and some other refrigerants. Reference Hose types 241, 231, 235, 510A.
- (7) 150° Maximum.
- (8) Satisfactory at some concentrations and temperatures, unsatisfactory at others.
- (9) Some discoloration of fluid will occur without damage to other properties.

Hose Types

Column I

CR (Neoprene) and NBR (Buna N) rubbers are both considered standard for hydraulic hose. All hose numbers ending in "1" indicate that one of these rubbers is employed in the tube. This is also true of SS25 hose. Parker Hoses: SS25, 201, 221, 231, 241, 261, 301, 341, 381, 421, 741, 751, 761, 801, 821, 831, 841HT, 861, 881.

Column II

EP (Ethylene Propylene) rubbers are indicated by "4" at the end of the hose number. Standard, in stock hoses are 204, 304, 344 and 754. Note that with some fluids, harmless discoloration of the fluid may occur.

Column III

nylon lined hoses: 235, 2LPG, PFT, 305, 510A and 518A.

Column IV

Hose of Teflon: 909 and 919.

Hose and Fitting Fluid
Compatibility Chart

Hose and Fitting Selection

Material Medium	Hose				Fittings		
	CR NBR	EP	Nylon	Teflon	Steel	Brass	S.S.
	Acetic Acid	X	(8)	X	A	X	X
Acetone	X	A	A	A	A	A	A
Acetylene	(2)	(2)	(2)	(2)	A	A	A
Air (1)	A	A	A	F	A	A	A
Alcohol (Methanol-Ethanol)	A	A	A	A	F	A	A
Aluminum Chloride	A	A	X	A	X	X	X
Aluminum Fluoride 20%	A	A	X	A	X	X	X
Aluminum Sulfate	A	A	X	A	X	X	X
Alums	A	A	X	A	X	X	X
Anhydrous Ammonia	(2)	(2)	(2)	(2)	A	X	A
Ammonium Chloride	A	A	X	A	X	X	X
Ammonium Hydroxide	F	A	F	A	F	X	A
Ammonium Nitrate	A	A	A	A	F	X	A
Ammonium Phosphate	A	A	A	A	X	X	F
Ammonium Sulfate	A	A	F	A	F	X	F
Amyl Acetate	X	X	A	A	X	A	X
Amyl Alcohol	X	F	A	A	X	A	A
Aniline	X	A	X	A	A	X	A
Aniline Dyes	F	A	X	F	X	F	F
Animal Fats	F	F	A	A	(8)	(8)	A
Asphalt	X	X	A	A	X	(8)	A
Automotive Brake Fluid	(3)	—	A	A	A	A	A
Barium Chloride	A	A	X	A	F	F	F
Barium Hydroxide	A	A	A	F	F	X	A
Barium Sulfide	A	A	F	A	X	X	A
Beer	(3)	—	—	A	X	F	A
Beet Sugar Liquors	A	A	A	A	F	F	A
Benzene, Benzol	X	X	F	A	A	A	A
Benzine	(3)	X	A	A	A	A	A
Black Sulfate Liquor	A	A	F	A	F	X	A
Borax	(3)	A	A	A	F	A	A
Boric Acid	A	A	F	A	X	(8)	A
Brine	F	A	(8)	A	X	F	(8)
Bromine	X	X	X	X(4)	X	(8)	X
Butane	(2)	X	(2)	(2)	A	A	A
Butyl Alcohol, Butanol	A	A	A	A	F	F	A
Calcium Bisulfite	A	X	F	A	X	X	A
Calcium Chloride	A	A	(8)	A	F	F	X
Calcium Hydroxide	A	A	A	A	A	A	A
Calcium Hypochlorite	(8)	A	X	A	X	(8)	X
Caliche Liquors	A	A	—	A	A	F	A
Cane Sugar Liquors	A	A	A	A	A	F	A
Carbolic Acid (Phenol)	(8)	X	X	A	X	F	A
Carbon Dioxide	(8)	(8)	A	A	A	A	A
Carbon Disulfide	X	X	X	A	A	F	A
Carbon Monoxide (hot)	(8)	(8)	(8)	A	F	(8)	A
Carbon Tetrachloride	X	X	A	A	(8)	(8)	(8)
Carbonic Acid	A	F	A	A	X	X	F
Castor Oil	A	A	F	A	A	A	A
Cellosolve Acetate	X	A	F	A	X	X	A
Cellugard	A	(5)	A	A	A	A	A
Cellulube 90, 150, 220 300, 550, 1000	X	A	A	A	A	A	A
Chevron FR-10, 13, 20, 8	X	A	A	A	A	A	A
Chlorinated Paraffin & Petroleum Oil	X	X	F	A	A	A	A
Chlorinated Solvents	X	X	(8)	A	A	A	F
Chlorine Gas (Dry)	X	X	X	X(4)	F	F	X
Chloroacetic Acid	X	X	X	A	X	X	X
Chloroform	X	X	X	A	X	X	A
Chlorosulphonic Acid	X	X	X	A	(8)	X	X
Chromic Acid	X	(8)	X	A	X	X	(8)
Citgo Pacemaker Glycol FR-15, 20, 25	A	(5)	A	A	A	A	A
Citgo Pacemaker FR	A	X	A	A	A	A	A
Citric Acid	(3)	A	A	A	X	(8)	(8)

Material Medium	Hose				Fittings		
	CR NBR	EP	Nylon	Teflon	Steel	Brass	S.S.
	Coke Oven Gas	(8)	(8)	A	(8)	F	(8)	A
Copper Chloride	(8)	A	(8)	X	X	(8)	X
Copper Sulfate	A	X	A	A	X	X	(8)
Cottonseed Oil	(8)	X	A	A	A	A	A
Creosote	A	X	X	A	X	(8)	A
Crude Petroleum Oil	A	X	A	A	(8)	(8)	A
Dasco FR-150, 200, 310	A	(5)	A	A	A	A	A
Dasco FR 300	X	X	A	A	A	A	A
Dasco IFR	A	X	A	A	A	A	A
Diesel Fuel	(3)	X	A	A	A	A	A
Dow HD50-4	F	—	—	A	—	—	A
Dow Corning DC 200, 510, 550, 560 FC1265	A	—	A	A	A	A	A
Dowtherm A,E	X	X	(8)	A	A	A	A
Duro AW-16, 31	A	X	A	A	A	A	A
Duro FR-HD	A	X	A	A	A	A	A
Ethanol	A	A	A	A	F	A	A
Ethers	—	—	A	A	A	A	A
Ethyl Acetate	X	F	A	A	F	A	A
Ethyl Alcohol	A	A	A	A	F	A	A
Ethyl Cellulose	F	F	(8)	A	X	F	F
Ethyl Chloride	X	A	A	A	F	F	F
Ethylene Dichloride	X	X	A	A	X	A	X
Ethylene Glycol (to 150°F)	A	A	A	A	A	F	X
Ferric Chloride	A	A	X	A	X	X	X
Ferric Sulfate	A	A	X	A	X	X	F
Formaldehyde	X	A	F	A	X	F	A
Formic Acid	X	A	X	A	X	(8)	X
Freon 12, 22	(6)	X	A	X	A	A	A
Fyrequel 90, 150, 220 300, 550, 1000	X	A	A	A	A	A	A
Fyrguard 150, 150-M, 200	A	(5)	A	A	A	A	A
Fyre-Safe 225, 211	A	(5)	A	A	A	A	A
Fyre-Safe W/O	A	X	A	A	A	A	A
Fyre-Safe 1090E, 1150, 1220, 1300E, 1550E	X	A	A	A	A	A	A
Fuel Oil	(3)	X	A	A	A	A	A
Gasoline	(3)	X	A	A	A	A	A
Glue	(8)	(8)	(8)	(8)	A	(8)	A
Glycerine, Glycerol	A	A	A	A	A	F	A
Grease	A	X	A	A	A	A	A
Green Sulfate Liquor	A	A	(8)	A	X	X	X
Gulf - FR Fluid	A	X	A	A	A	A	A
Gulf - FR Fluid P37, P40, P43, P45, P47	X	A	A	A	A	A	A
Gulf - FR Fluid G150 G100, G250, G200	A	(5)	A	A	A	A	A
Heptane	(3)	X	A	A	A	A	A
Hexane	(3)	X	A	A	A	A	A
HF-20	A	(5)	A	A	A	A	A
Houghto-Safe 271 to 640	A	(5)	A	A	A	A	A
Houghto-Safe 5046, 5046W	A	X	A	A	A	A	A
Houghto-Safe 1010, 1055, 1115, 1120, 1130	X	A	A	A	A	A	A
Hul-E-Mul	A	X	A	A	A	A	A
Hydrafluid 760	A	X	A	A	A	A	A
Hydrobromic Acid	X	A	X	A	X	(8)	X
Hypo	A	A	A	A	X	X	A
Hydrochloric Acid	X	X	X	A	X	(8)	X
Hydrocyanic Acid	X	(8)	F	A	(8)	X	F
Hydrofluoric Acid	X	X	X	A	X	(8)	X
Hydrofluorosilic Acid	X	A	X	A	X	(8)	X
Hydrogen	F(2)	F(2)	A(2)	F(2)	A	A	A
Hydrogen Peroxide	X	X	X	A	X	X	(8)
Hydrogen Sulfide	X	A	X	A	X	X	(8)

Letters — Numerals refer to Resistance Rating Key on Page A-5.

Hose and Fitting Selection

Hose and Fitting Fluid Compatibility Chart

Material Medium	Hose				Fittings			Material Medium	Hose				Fittings		
	I	II	III	IV	V	VI	VII		I	II	III	IV	V	VI	VII
	CR. NBR	EP	Nylon	Teflon	Steel	Brass	S.S.		CR. NBR	EP	Nylon	Teflon	Steel	Brass	S.S.
Hydrolube	A	(5)	A	A	A	A	A	Pydraul 60, F9, 150, 625 and "E" Series	X	A	A	A	A	A	A
H-515 (NATO)	A	X	A	A	A	A	A	Pydraul A-200	X	X	A	A	A	A	A
Imol	A	X	A	A	A	A	A	Pydraul 90, 135, 230, 312, 540 and "C" Series	X	X	A	A	A	A	A
Imol S150 to S550	X	—	—	—	A	A	A	Pyro Gard C,D,R	A	(5)	A	A	A	A	A
Isocetane	(3)	X	A	A	A	A	A	Pyro Gard 43	X	X	A	A	A	A	A
Isopropyl Alcohol	A	F	A	A	F	A	A	Pyro Guard 53, 55, 51, 42	X	A	A	A	A	A	A
JP3 and JP4	(3)	X	F	A	A	A	A	Safco-Safe T10, T20	A	(5)	A	A	F	F	A
Kerosene	(3)	X	A	A	A	A	A	Santosafe W/G 15 to 30	A	(5)	A	A	A	A	A
Lacquer	X	X	A	A	X	A	A	Santosafe - 300	X	X	—	A	A	A	A
Lacquer Solvents	X	X	(8)	A	X	A	A	Sea Water	F	A	(8)	A	X	F	(8)
Lactic Acids	X	X	X	A	X	(8)	A	Sewage	(3)	(8)	A	A	(8)	(8)	(8)
Linseed Oil	(5)	A	A	A	A	A	A	Shell IRUS 902	A	(5)	A	A	A	A	A
Lindol HF	X	A	A	A	A	A	A	Shell IRUS 905	A	—	A	A	A	A	A
LP-Gas	(2)	X	(2)	(2)	A	A	A	Shell FRM	A	X	A	A	A	A	A
Lubricating Oils	A	X	A	A	A	A	A	Silicones	A	—	A	A	A	A	A
Magnesium Chloride	A	A	X	A	X	(8)	X	Skydrol (all)	X	A(9)	A	A	A	A	A
Magnesium Hydroxide	F	A	X	A	F	F	F	Soap Solutions	(3)	A	A	A	A	A	A
Magnesium Sulfate	A	A	A	A	A	F	A	Soda Ash,							
Mercuric Chloride	X	A	X	A	(8)	X	(8)	Sodium Carbonate	A	A	A	A	A	F	A
Mercury	A	A	A	A	A	X	F	Sodium Bisulfate	A	A	A	A	X	(8)	X
Methane	(2)	X	(2)	(2)	A	A	A	Sodium Chloride	F	A	(8)	A	X	F	(8)
Methanol	A	A	A	A	F	A	A	Sodium Cyanide	A	A	A	A	A	X	A
Methyl Alcohol	A	A	A	A	F	A	A	Sodium Hydroxide	X	A	A	A	A	X	A
Methyl Chloride	(8)	(8)	X	A	A	A	A	Sodium Hypochlorite	(8)	F	X	A	X	X	X
Methyl Ethyl Ketone (MEK)	X	X	A	A	F	F	F	Sodium Nitrate	(8)	A	A	A	A	(8)	A
Methyl Isopropyl-Ketone	X	X	A	A	(8)	(8)	(8)	Sodium Perborate	(8)	A	A	A	X	X	(8)
MIL-L-2104 & 2104B	A	X	A	A	A	A	A	Sodium Peroxide	(8)	A	(8)	A	X	X	A
MIL-F-7083	A	X	A	A	A	A	A	Sodium Phosphates	X	A	A	F	X	(8)	(8)
MIL-H-5606	A	X	A	A	A	A	A	Sodium Silicate	A	A	A	A	A	A	A
MIL-L-7808	(7)	X	X	A	A	A	A	Sodium Sulfate	A	A	A	A	A	A	A
MIL-O-6083	A	X	A	A	A	A	A	Sodium Thiosulfate	A	A	A	A	X	X	A
Mine Guard FR	A	(5)	A	A	A	A	A	Soybean Oil	A	A	A	A	A	A	A
Mineral Oil	A	X	A	A	A	A	A	Stannic Chloride	A	F	A	A	X	X	X
Mobile HFA	A	X	A	A	A	A	A	Steam	X	X	X	A	F	A	A
Morpholine (pure additive)	X	X	X	A	X	X	A	Stearic Acid	F	F	A	A	(8)	(8)	(8)
NaK	X	X	—	X	A	X	A	Sulfur Chloride	(8)	X	F	A	(8)	X	(8)
Naptha	(3)	X	A	A	A	A	A	Sulfur Dioxide	(8)	(8)	X	A	X	(8)	(8)
Naphthalene	X	X	A	A	A	A	A	Sulfur Trioxide	(8)	(8)	X	A	X	X	X
Natural Gas	(2)	X	(2)	(2)	A	A	A	Sulfuric Acid	F(8)	F(8)	X	A	(8)	X	(8)
Nickel Chloride	A	A	X	A	X	X	X	Sun Minesafe, Sun Safe	A	X	A	A	A	A	A
Nickel Sulfate	A	A	A	A	X	X	(8)	Tannic Acid	(3)	A	X	A	X	(8)	X
Nitric Acid	X	X	X	A	X	X	(8)	Tar	X	X	X	A	X	(8)	A
Nitrobenzene	X	X	A	A	X	X	(8)	Tartaric Acid	F	F	X	A	X	(8)	(8)
Nuto H	A	X	A	A	A	A	A	Tellus (Shell)	A	X	A	A	A	A	A
Nyvac 20, 30, 200, FR	A	(5)	A	A	A	A	A	Texaco 760 Hydrafluid	A	X	A	A	A	A	A
Nyvac Light	X	A	A	A	A	A	A	Texaco 766, 763 (200 - 300)	X	(5)	A	A	F	F	A
Oleic Acid	F	F	A	A	X	(8)	F	Toluene, Toluol	X	X	A	A	A	A	A
Oleum Spirits	X	(8)	A	A	X	(8)	(8)	Transmission Oil	A	X	A	A	A	A	A
Oxalic Acid	F	A	X	F	(8)	(8)	F	Trichloroethylene	X	X	A	A	X	A	A
Oxygen	X	X	(3)	(3)	X	A	A	Turpentine	X	X	A	A	A	A	A
O-148 (NATO)	(7)	X	X	A	A	A	A	UCON Hydrolubes	A	(5)	A	A	A	A	A
Ozone	(3)	A	X	A	A	A	A	Urethane Formulations	A	—	A	A	A	A	A
Palmitic Acid	A	F	X	A	X	(8)	F	Varnish	X	X	A	A	F	F	A
Perchloroethylene	X	X	X	A	F	X	A	Versilube F44	A	—	A	A	A	A	A
Petroleum Ether	(3)	X	A	A	A	A	A	Versilube F55	A	X	A	A	A	A	A
Petroleum Oils	A	X	A	A	A	A	A	Vinegar	X	A	A	A	(8)	X	A
Phenol (Carbolic Acid)	(8)	X	X	A	X	A	A	Vital 4300, 5310	X	X	A	A	A	A	A
Phosphate Esters	X	A	A	A	A	A	A	Water	(7)	A	A	A	A	F	(3)
Phosphoric Acid	X	X	X	A	X	X	(8)	Whiskey	(3)	—	A	A	X	F	A
Picric Acid, Molten	X	X	X	A	(8)	(8)	(8)	Wine	(3)	—	A	A	X	F	A
Picric Acid, Solution	X	X	X	A	(8)	X	F	Xylene, Xylol	X	X	A	A	A	A	A
Potassium Chloride	A	A	A	A	X	F	(8)	Zinc Chloride	(8)	A	X	A	(8)	(8)	(8)
Potassium Cyanide	A	A	A	A	A	X	A	Zinc Sulfate	A	A	A	A	(8)	(8)	(8)
Potassium Hydroxide	X	A	F	A	(8)	X	A	3M FC-75	A	A	A	A	A	A	A
Potassium Sulfate	A	A	F	A	A	A	A								
Propane	(2)	X	(2)	(2)	A	A	A								

Letters — Numerals refer to Resistance Rating Key on Page A-5

Hose Fitting End Configuration Identification Chart

End Code	Description	Fitting Series											
		20	30	34	42	51	55	74	75	76	82	88	90
01	Male Pipe Thread	X	X	X	X	X	X	X	X		X	X	X
02	Female Pipe Thread						X				X		
03	Male SAE (JIC) 37° Flare	X	X	X	X	X	X				X		X
04	Male SAE 45° Flare	X				X	X				X		
05	Male Straight Thread with O-Ring	X	X	X	X	X	X					X	
06	Female SAE (JIC) 37° Swivel	X	X	X	X	X	X	X			X	X	X
07	Female Pipe Swivel - NPSM						X						
08	Female SAE 45° Swivel	X	X	X	X	X	X				X		X
11	Ferrul-Fix (SAE Flareless)	X	X	X	X	X							
12	SAE Flareless Swivel		X	X	X	X							
13	Male Pipe O-Ring Swivel		X	X	X		X				X		
15	SAE Straight Flange Head (Code 61) - Standard Pressure	X	X	X	X			X	X	X		X	X
16	SAE Flange Head - 22½° Elbow (Code 61) - Standard Pressure								X				
17	SAE Flange Head - 45° Elbow (Code 61) - Standard Pressure	X	X	X	X			X	X	X		X	
18	SAE Flange Head - 67½° Elbow (Code 61) - Standard Pressure							X	X				
19	SAE Flange Head - 90° Elbow (Code 61) - Standard Pressure	X	X	X	X			X	X	X		X	
1L	Male Pipe 90° Elbow 360° O-Ring Swivel						X						
21	Male Pipe Thread - 90° Elbow											X	
26	SAE Flange Head - 30° Elbow (Code 61) - Standard Pressure								X				
27	SAE Flange Head - 60° Elbow (Code 61) - Standard Pressure								X				
28	Male Inverted Swivel	X				X					X		X
29	Female Inverted Rigid										X		
31	Male Pipe - 45° Elbow											X	
32	PTT 30° Swivel	X											
34	Straight Tube, Inch Sized										X		X
37	Female SAE (JIC) 37° Swivel - 45° Elbow	X	X	X	X	X	X				X		X
39	Female SAE (JIC) 37° Swivel - 90° Elbow	X	X	X	X	X	X	X			X		X
41	Female SAE (JIC) 37° Swivel - 90° Long Elbow	X	X	X	X	X	X				X		
45	Tube (O-Ring), Straight Male - Long Pilot	X											
48	Female SAE (JIC) 37° - O-Ring Swivel		X		X								
59	Tube (O-Ring), Straight Female - Long Pilot	X											
5K	Tube (O-Ring), Male 90° Elbow - Short Pilot	X											
5L	Tube (O-Ring), Female 90° Elbow - Long Pilot	X											
5M	Tube (O-Ring), Male 90° Elbow - Long Pilot	X											
5N	Tube (O-Ring), Female 45° Elbow - Long Pilot	X											
S5	Tube (O-Ring), Male Straight - Short Pilot	X											
61	SAE Compression Air Brake	X											X
67	SAE Male Inverted Swivel - 45° Elbow	X				X					X		X
69	SAE Male Inverted Swivel - 90° Elbow	X				X					X		X
6A	SAE Flange Head Straight (Code 62) — High Pressure									X			
6F	SAE Flange Head, 45° Elbow (Code 62) - High Pressure									X			
6N	SAE Flange Head, 90° Elbow (Code 62) - High Pressure									X			
71	SAE Male Inverted Swivel - 90° Elbow Long	X				X							
77	SAE 45° Female Swivel - 45° Elbow	X				X					X		
79	SAE 45° Female Swivel - 90° Elbow	X				X					X		X
7G	NPSM Swivel - Gasket										X		
81	SAE 45° Female Swivel - 90° Elbow (Long)	X				X					X		
82	Hose Union - Pushlok										X		
88	Suction Hose Union											X	
	MA, MC, ME, MG, MJ, MN - 2 Bolt Flange	X											

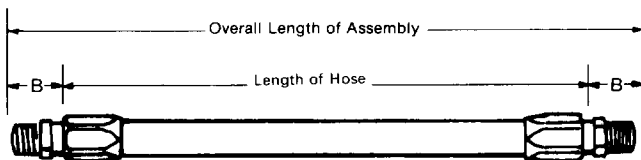
X Available

No-Skive Hose and Fittings

Features

How to Measure Hose Assemblies

To determine the cut length of hose for any assembly, subtract the CUT-OFF-FACTOR (B) for EACH FITTING from the overall length of assembly.



No-Skive Advantages

Cushioned Grip — “No-Skive” assemblies keep the protective rubber cover on the hose where it belongs. Graduated threads plow into the cover, reaching only part way at the lead threads where stresses are greatest, but making direct contact with the wire braid well within the fitting where no flexing occurs.

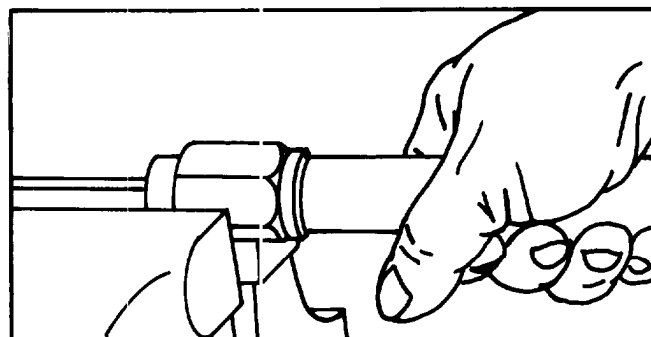
No Time Lost Skiving — Reuseable Fittings are attached to “No-Skive” Hose without peeling or skiving the hose eliminating needless waste of time and effort.

Long Service Life — “No-Skive” assemblies last up to 50% longer in actual service when compared to the skive type. The solid cushioned grip prevents destructive flexing and also protects the high tensile carbon steel braid against moisture and corrosive atmospheres.

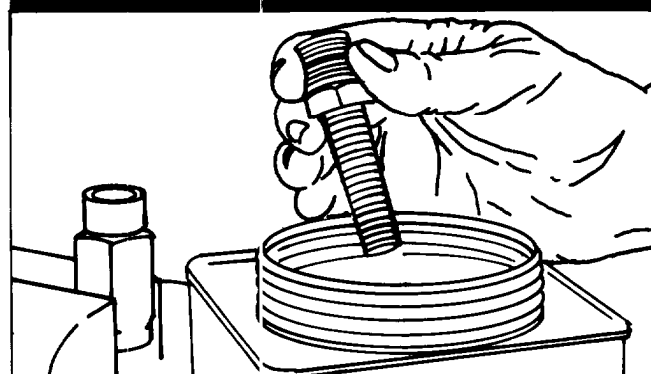
No Special Tools — “No-Skive” assemblies are made quickly and easily in the field. You need no skiving knives, mandrels or gloves.

Perfect Assembly Every Time — Anyone can make a perfect assembly with “No-Skive” every time. The fitting automatically accepts the right amount of hose for metal-to-wire connection. The wire braid is never damaged or weakened. Such errors as “skiving too short” or “skiving too long” are completely eliminated.

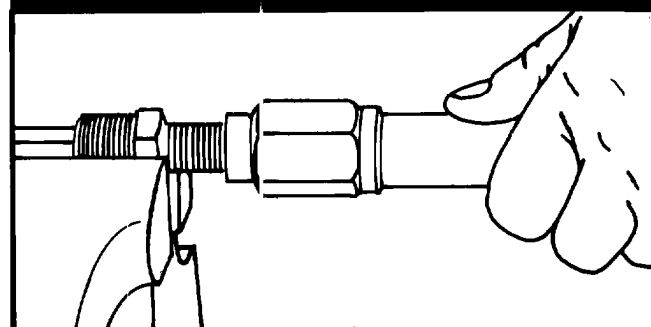
Complete Line Always Available — “No-Skive” fittings are made in all popular sizes and end configurations for medium, high, extreme, and critical pressure applications. Prompt shipment is assured through a large, fully stocked, international distributor and warehouse network.



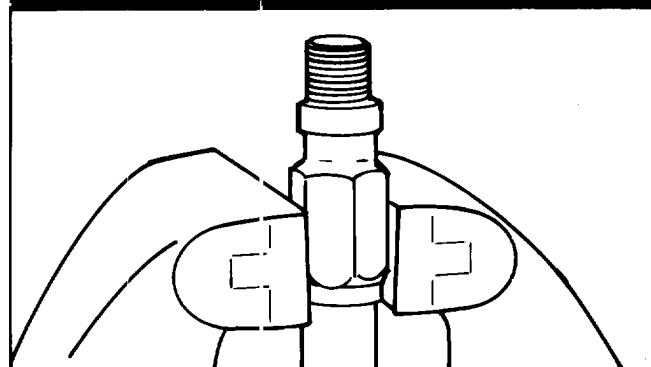
1. Place socket in vice as shown. Dip cut end of hose into lubricant such as Hose Oil and screw counterclockwise into socket until hose bottoms. Back off 1/2 turn.



2. Dip threads of nipple in Hose Oil for adequate lubrication.



3. Place nipple hex in vice. Screw hose and socket clockwise onto nipple until large threads engage.



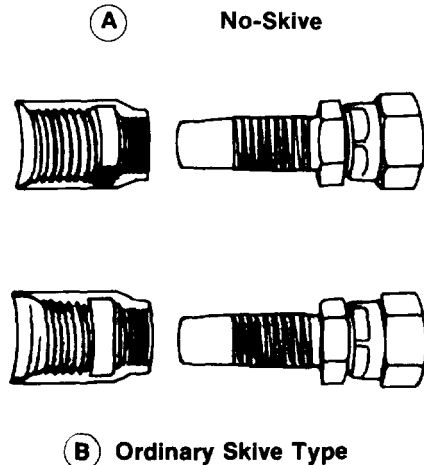
4. Position socket in vice as shown and complete assembly as illustrated.

There are 3 big reasons why "No-Skive" Hose Assemblies last longer than ordinary skive type assemblies.

1 The Fitting

(A) No-Skive
 advantage begins with the design of the fitting (A). "No-Skive" deep-tapped inner threads give the rubber hose cover somewhere to go, so it doesn't have to be removed. The sharpened lead threads cut a spiral path in the rubber; never reach the wire braid. The following blunt threads plow all the way to the wire. The ample spaces between the threads fill up solid with rubber. Note the precise machining. This gives a positive moisture proof, cushioned grip without damaging the wire.

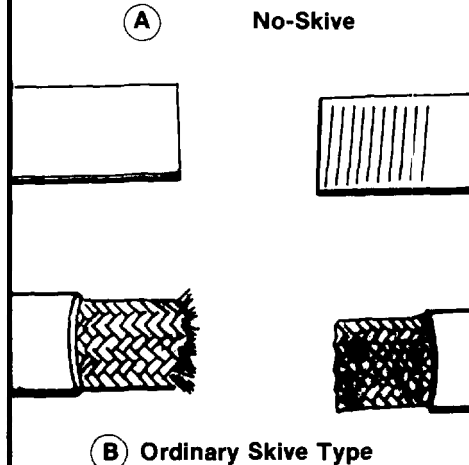
(B) Ordinary Skive Type
 Ordinary fittings require skiving. They provide insufficient space between threads to accept the rubber hose cover, so it has to be removed. Thread designs vary; the design shown is only one of several on the market. All, however, leave the wire braid of the hose "bridged" over voids between the crests of the threads. The result is constant flexing of the unsupported wire braid as pressure within the hose rises and falls. Stress concentration is most severe where the first thread touches the wire, and most hose fails right there.



2 The Hose

(A) No-Skive
 "No-Skive" Hose is ready for assembly as soon as it has been cut to length. It is protected by its rubber cover throughout use, and this is made possible by cover specification, which limits cover thickness to the amount of rubber a "No-Skive" fitting will accept, making skiving unnecessary. Because it takes a high quality rubber compound to meet this specification, abrasion resistance is as good or better than ordinary skive type hose, yet "No-Skive" Hose costs no more.

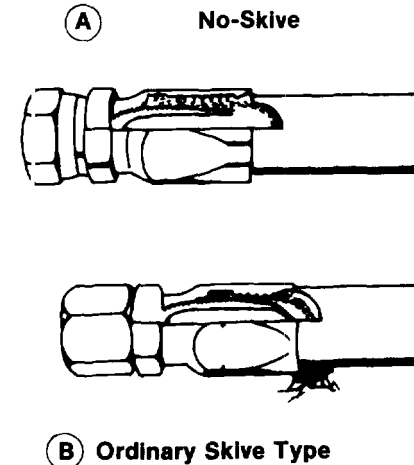
(B) Ordinary Skive Type
 Ordinary hose requires skiving, even when used with "No-Skive" fittings, for two reasons: its rubber cover is nearly always too thick. And, more important, cover thickness is allowed to vary greatly under existing specifications. The skiving process is not only time-consuming; it can nick and weaken the wire braid of the hose. Add to this the twin possibilities of "skiving too short" (which results in a weak, ineffective grip) and "skiving too long" (which exposes the wire braid to moisture and corrosion) and you can see why skiving is undesirable.



3 The Assembly

(A) No-Skive
 Here is the protection you get with "No-Skive" Fittings on "No-Skive" Hose. Notice that the lead thread of the "No-Skive" fitting cannot damage the wires. It does not touch them. Instead a supporting cushion of compressed rubber reduces stress concentration at this critical point. The firm direct grip of the crests of the full threads occurs well within the fitting. Even there, the wire braid is supported between each thread by solidly packed rubber. No wonder "No-Skive" hose assemblies rarely fail at the fitting.

(B) Ordinary Skive Type
 With the rubber cover skived off before assembly, there are voids between the crests of the threads throughout the entire gripping area. This leaves the wire braid completely unsupported between threads, and every thread crest becomes a stress point. Failure is induced at the point of greatest stress, where the unprotected wire braid flexes directly on the first thread of the fitting. An alternate hazard is the fact that the spiral void between threads is an open channel to moisture and corrosion.



82 Series

Low Pressure Push-Lok



801 HOSE
Color Coded Cover



821 HOSE
Textile Braid Cover



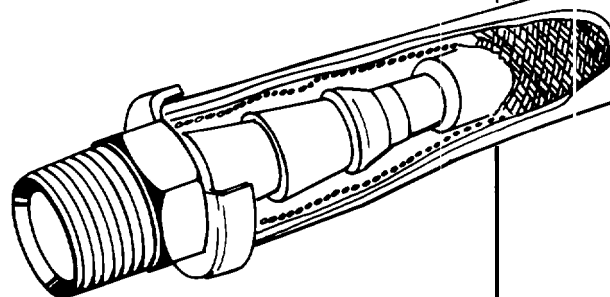
831 HOSE
Synthetic Rubber Cover

Hose and Fittings

- Just push hose on - no hose clamps required.
- **Reusable style fitting** barb design forms tight, positive seal.
- Widely used for shop air systems and general industrial and automotive applications for air, water, gasoline, diesel fuels, lubricating oils, anti-freeze, etc.
- Fittings available in brass, steel and stainless steel.

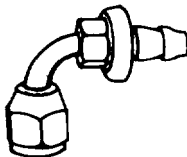
Hose Cover

Need not be removed for Assembly



Color-Coded 801 Hose

801 hose is available in four standard colors (Gray, Blue, Red Yellow) for convenient color coding of hose lines. Following are a few examples of color coding.



By Function

In applications where a number of hose lines carrying different materials (water, air, oil, fuel) are next to each other, color coded lines provide a quick, easy means of identification.

By Size

Drop lines for air tools and equipment can be color coded by length and/or size for quicker replacement, without need to measure size.

By Maintenance Schedule

Color coded hose is an excellent way to keep track of the scheduled replacement of low pressure hose lines. Just assign a different color coded hose to each replacement period.

Inventory Control

Different colors assigned to individual departments or equipment helps to assure that correct hose is in stock when it is needed.

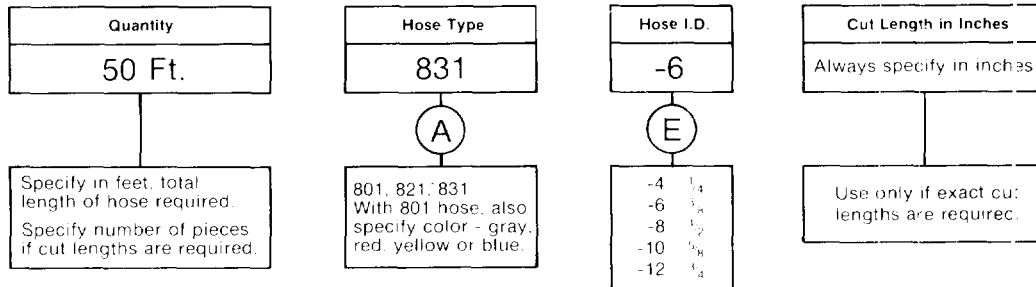
Reusable style fitting design permits quick, easy field assembly without special tools.

... Just Replace The Hose!

How to Order Hose Only

When ordering hose, specify complete information as illustrated below

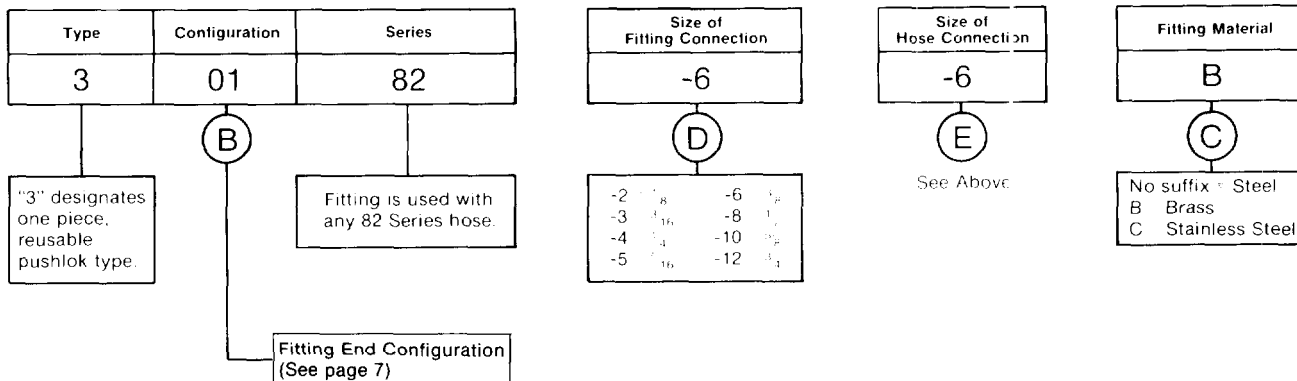
Examples: **50 Ft. 831-6** (bulk hose) **6 pcs. 831-6-120 inches** (exact cut lengths)



How to Order Fittings Only

Fittings are ordered by part number as listed in this catalog on pages A-14 - A-19.

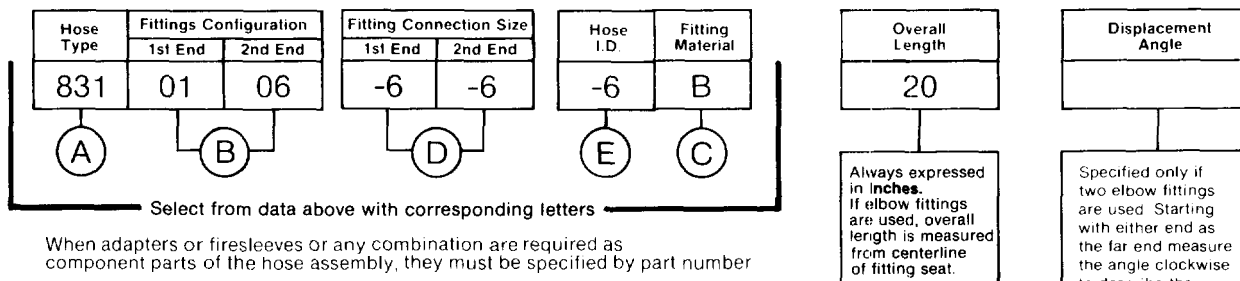
Example: **30182-6-6B**



How to Order Hose Assemblies

The following example illustrates how to order a hose assembly using 3/8" I.D. 831 hose, with 3/8" male pipe connection on one end, and 3/8" SAE (JIC) 37° Swivel connection on the other end. Fittings are brass, overall length is 20".

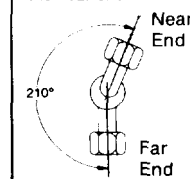
Example: **8310106-6-6B-20"**



Example: **8310106-6-6B-20"** with **0107-8-6**

Typical Basic Assembly Numbers

End Connection #1	End Connection #2	01 Male Pipe	02 Female Pipe	03 Male SAE (JIC) 37°	04 Male SAE 45°	06 SAE (JIC) 37° Swivel
01 Male Pipe		8310101B	8310102B	8310103B	8310104B	8310106B
02 Female Pipe		8310201B	8310202B	8310203B	8310204B	8310206B
03 Male SAE (JIC) 37°		8310301B	8310302B	8310303B	8310304B	8310306B



82 Series

82 Series Fittings used with 801, 821, 831 Hose

801 Push-Lok Hose



Part No.*	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius	Vacuum Inches of Mercury
801-4	1/4	.50	200	500	2 1/2	28
801-6	3/8	.62	200	500	3	28
801-8	1/2	.75	200	500	5	28
801-10	5/8	.91	200	500	6	15
801-12	3/4	1.03	200	500	7	15

*Also specify color when ordering Example 801-6 Blue if no color specified 801 Gray will be supplied

Construction: Synthetic rubber liner, one textile braid reinforcement, synthetic rubber cover.

Applications: Widely used for shop air systems and general industrial, maintenance and automotive applications for air, water, gasoline, diesel fuels**, lubricating oils, anti-freeze.

Temperature Range: -40° F to +200° F (-40° C to +93° C) except air above +160° F (+71° C) and water above +190° F (+88° C).

Colors: For color coding applications, Push-lok 801 hose is finished with **Gray, Red, Yellow, or Blue** cover.

821 Push-Lok Hose



Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius	Vacuum Inches of Mercury
821-4	1/4	.50	350	1400	2 1/2	28
821-6	3/8	.62	300	1200	3	28
821-8	1/2	.75	300	1200	5	28
821-10	5/8	.91	250	1000	6	28
821-12	3/4	1.03	250	1000	7	28

Construction: Synthetic rubber liner, one textile braid reinforcement, oil and mildew resistant textile braid cover.

Applications: Widely used for shop air systems and general industrial, maintenance and automotive applications for air, water, gasoline, diesel fuels**, lubricating oils, anti-freeze.

Temperature Range: -40° F to +200° F (-40° C to +93° C) except air above +160° F (+71° C) and water above +190° F (+88° C).

831 Push-Lok Hose



Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius	Vacuum Inches of Mercury
831-4	1/4	.50	350	1400	2 1/2	28
831-6	3/8	.62	300	1200	3	28
831-8	1/2	.75	300	1200	5	28
831-10	5/8	.91	250	1000	6	15
831-12	3/4	1.03	250	1000	7	15

NOTE: Push-Lok hose is not recommended for cooling lines in air conditioners and heat pumps, nor hydraulic applications where extreme pulsations are encountered.

** NOTE: For applications using diesel fuel, specify Push-Lok with Buna-N

Construction: Synthetic rubber liner, one textile braid reinforcement, black synthetic rubber cover.

Applications: Widely used for shop air systems and general industrial, maintenance and automotive applications for air, water, gasoline, diesel fuels**, lubricating oils, anti-freeze.

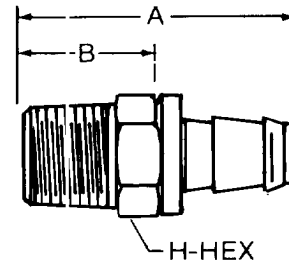
Temperature Range: -40° F to +200° F (-40° C to +93° C) except air above +160° F (+71° C) and water above +190° F (+88° C).

82 Series Fittings used with 801, 821, 831 Hose

BRASS Part No.	STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex
30182-2-4B	30182-2-4*	-4	1/8-27	1.39	.64	7/16
30182-4-4B	30182-4-4*	-4	1/4-18	1.58	.81	9/16
30182-4-6B	30182-4-6	-6	1/4-18	1.78	.88	9/16
30182-6-6B	30182-6-6*	-6	3/8-18	1.78	.88	1 1/16
30182-8-6B	---	-6	1/2-14	2.03	1.13	7/8
30182-6-8B	30182-6-8	-8	3/8-18	1.93	.88	1 1/16
30182-8-8B	30182-8-8*	-8	1/2-14	2.18	1.13	7/8
30182-12-8B	---	-8	3/4-14	2.21	1.16	1 1/16
30182-8-10B	30182-8-10	-10	1/2-14	2.58	1.13	7/8
30182-12-12B	30182-12-12	-12	3/4-14	2.61	1.16	1 1/16

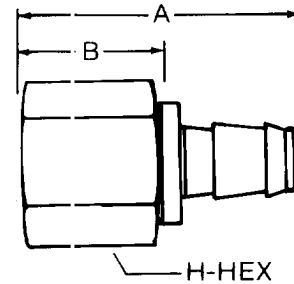
*Also available in 303 stainless steel. Add "C" to part no. Example: 30182-2-4C.

30182 Male Pipe



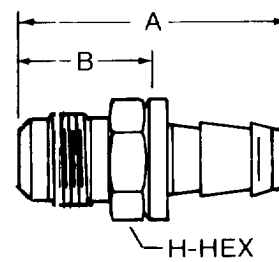
BRASS Part No.	STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex
30282-4-4B	30282-4-4	-4	1/4-18	1.56	.81	3/4
30282-4-6B	---	-6	1/4-18	1.75	.85	3/4
30282-6-6B	30282-6-6	-6	3/8-18	1.82	.87	7/8
30282-8-8B	30282-8-8	-8	1/2-14	2.16	.97	1 1/8

30282 Female Pipe



BRASS Part No.	STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex
			Size	Thread			
---	30382-4-4	-4	1/4	7/16-20	1.57	.81	1/2
---	30382-5-4	-4	5/16	1/2-20	1.60	.84	9/16
30382-6-6B	30382-6-6	-6	3/8	9/16-18	1.78	.88	5/8

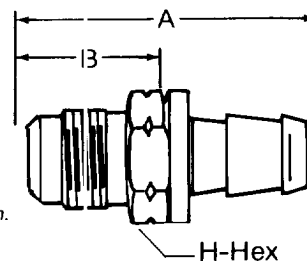
30382 Male SAE (JIC) 37°



BRASS Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex
		Size	Thread			
30482-4-4B	-4	1/4	7/16-20	1.52	.76	7/16
30482-5-4B	-4	5/16	1/2-20	1.61	.85	1/2
30482-6-6B	-6	3/8	5/8-18	1.85	.95	5/8
30482-8-8B	-8	1/2	3/4-16	2.15	1.10	3/4

Notch in Hex for SAE Identification. Size -6 only.

30482 Male SAE 45°



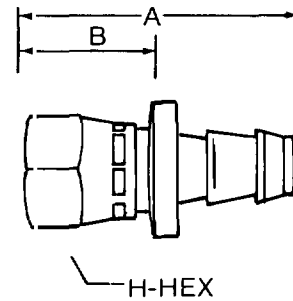
82 Series

82 Series Fittings used with 801, 821, 831 Hose

BRASS Part No.	STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex
			Size	Thread			
30682-4-4B	30682-4-4*	-4	1/4	7/16-20	1.52	.76	9/16
30682-5-4B	30682-5-4	-4	5/16	1/2-20	1.59	.83	5/8
30682-6-6B	30682-6-6*	-6	3/8	9/16-18	1.75	.85	11/16
30682-8-6B	---	-6	1/2	3/4-16	1.86	.96	7/8
30682-8-8B	30682-8-8*	-8	1/2	3/4-16	2.01	.96	7/8
30682-10-8B	---	-8	5/8	7/8-14	2.14	1.09	1
30682-10-10B	30682-10-10	-10	5/8	7/8-14	2.54	1.09	1
30682-12-12B	30682-12-12	-12	3/4	1 1/16-12	2.65	1.19	1 1/4

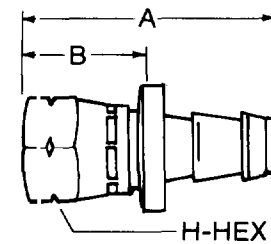
*Also available in 303 stainless steel. Add "C" to part no. Example: 30682-4-4C.

30682 SAE (JIC) 37° Swivel



BRASS Part No.	STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex
			Size	Thread			
30882-4-4B	30882-4-4	-4	1/4	7/16-20	1.52	.76	9/16
30882-5-4B	30882-5-4	-4	5/16	1/2-20	1.60	.83	5/8
30882-6-6B	30882-6-6	-6	3/8	5/8-18	1.81	.91	3/4
30882-8-6B	---	-6	1/2	3/4-16	1.86	.96	7/8
30882-8-8B	30882-8-8	-8	1/2	3/4-16	2.01	.98	7/8
30882-10-8B	---	-8	5/8	7/8-14	2.14	1.09	1
30882-10-10B	30882-10-10	-10	5/8	7/8-14	2.54	1.09	1
30882-12-12B	30882-12-12	-12	3/4	1 1/16-14	2.65	1.19	1 1/4

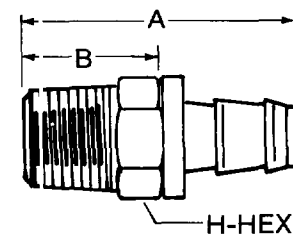
30882 SAE 45° Swivel



Notch in Nut for SAE Identification.
Sizes -6 and -12 only.

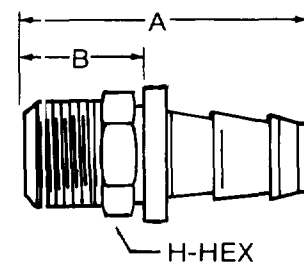
STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex
31382-4-4	-4	1/4-18	1.60	.85	9/16
31382-6-6	-6	3/8-18	1.79	.89	11/16
31382-8-8	-8	1/2-14	2.20	1.15	7/8

31382 Male Pipe 360° Swivel



BRASS Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex
		Size	Thread			
32882-3-4B	-4	3/16	3/8-24	1.55	.80	3/8
32882-4-4B	-4	1/4	7/16-24	1.53	.78	7/16
32882-5-4B	-4	5/16	1/2-20	1.56	.81	1/2
32882-6-6B	-6	3/8	5/8-18	1.78	.88	5/8
32882-8-8B	-8	1/2	3/4-18	2.00	.95	3/4
32882-10-10B	-10	5/8	7/8-18	2.50	1.05	7/8

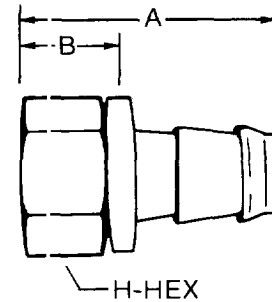
32882 SAE Male Inverted Swivel



82 Series Fittings used with 801, 821, 831 Hose

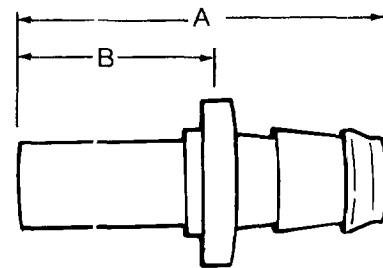
32982
SAE Female Inverted Rigid

BRASS Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex
		Size	Thread			
32982-3-4B	-4	3/16	3/8-24	1.19	.42	7/16
32982-4-4B	-4	1/4	7/16-24	1.19	.42	1/2
32982-5-4B	-4	5/16	1/2-20	1.25	.49	9/16
32982-6-6B	-6	3/8	5/8-18	1.44	.53	3/4
32982-8-8B	-8	1/2	3/4-18	1.63	.57	7/8



33482
Straight Tube

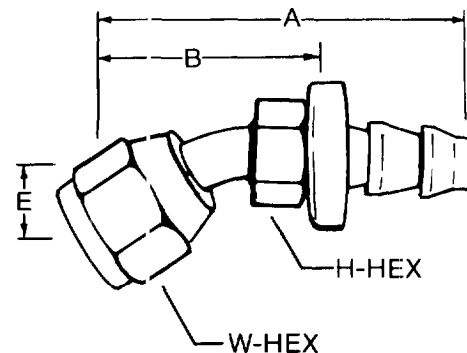
BRASS Part No.	Hose Size	Tube Size	A	B Cut-off Allow.
33482-3-4B	-4	3/16	1.63	.87
33482-4-4B	-4	1/4	1.89	1.13
33482-5-4B	-4	5/16	1.95	1.19
33482-6-6B	-6	3/8	2.23	1.23
33482-8-8B	-8	1/2	2.16	1.10
33482-10-10B	-10	5/8	2.63	1.17



Used with flareless type fittings

33782
SAE (JIC) 37° Swivel 45° Elbow

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	W Hex
		Size	Thread					
33782-4-4	-4	1/4	7/16-20	1.55	.79	.33	7/16	9/16
33782-6-6	-6	3/8	9/16-18	1.88	.98	.40	1/2	11/16
33782-8-8	-8	1/2	3/4-16	2.44	1.38	.55	5/8	7/8

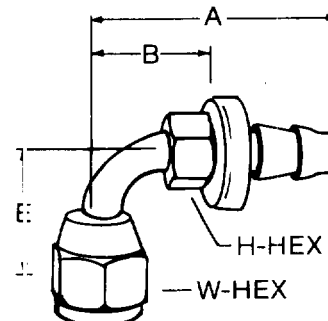


82 Series

82 Series Fittings used with 801, 821 831 Hose

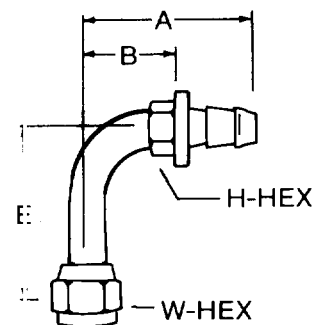
33982 SAE (JIC) 37° Swivel 90° Elbow

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	W Hex
		Size	Thread					
33982-4-4	-4	1/4	7/16-20	1.54	.78	.68	7/16	9/16
33982-6-6	-6	3/8	9/16-18	1.87	.97	.85	1/2	11/16
33982-8-8	-8	1/2	3/4-16	2.30	1.25	1.09	5/8	7/8



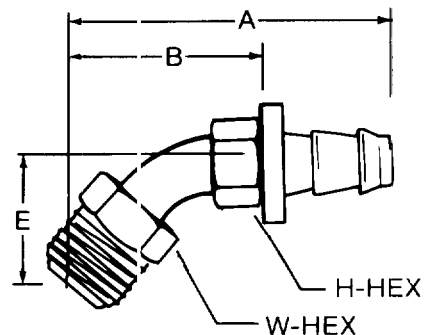
34182 SAE (JIC) 37° Swivel 90° Elbow (Long)

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	W Hex
		Size	Thread					
34182-4-4	-4	1/4	7/16-20	1.54	.78	1.80	7/16	9/16
34182-6-6	-6	3/8	9/16-18	1.87	.97	2.18	1/2	11/16



36782 SAE Male Inverted Swivel 45° Elbow

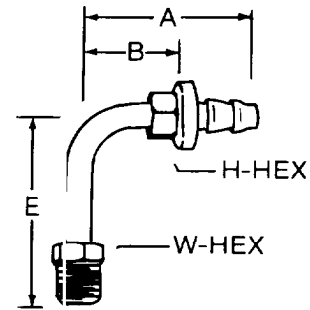
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	W Hex
		Size	Thread					
36782-4-4	-4	1/4	7/16-24	1.85	1.10	.62	7/16	7/16
36782-6-6	-6	3/8	5/8-18	2.64	1.73	.94	1/2	5/8



82 Series Fittings used with 801, 821, 831 Hose

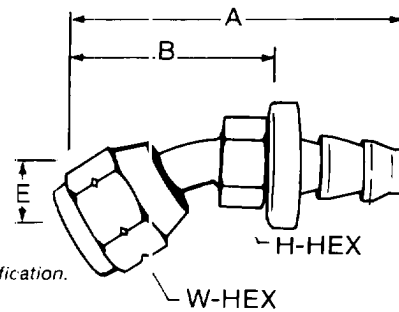
36982
SAE Male Inverted Swivel 90° Elbow

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	W Hex
		Size	Thread					
36982-4-4	-4	1/4	7/16-24	1.93	1.17	1.56	7/16	7/16
36982-5-4	-4	5/16	1/2-20	2.14	1.39	1.65	7/16	1/2
36982-6-6	-6	3/8	5/8-18	2.28	1.38	1.69	1/2	5/8



37782
SAE 45° Swivel 45° Elbow

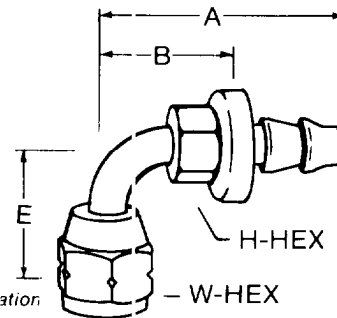
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	W Hex
		Size	Thread					
37782-4-4	-4	1/4	7/16-20	1.55	.81	.33	7/16	9/16
37782-6-6	-6	3/8	5/8-18	1.88	.99	.40	1/2	3/4
37782-8-8	-8	1/2	3/4-16	2.44	1.40	.55	5/8	7/8



Notch in Nut for SAE Identification.
Size -6 only.

37982
SAE 45° Swivel 90° Elbow

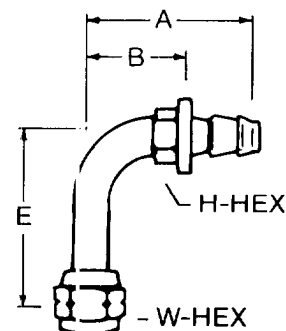
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	W Hex
		Size	Thread					
37982-4-4	-4	1/4	7/16-20	1.44	.70	.68	7/16	9/16
37982-6-6	-6	3/8	5/8-18	1.77	.88	.85	1/2	3/4
37982-8-8	-8	1/2	3/4-16	2.20	1.16	1.09	5/8	7/8



Notch in Nut for SAE Identification.
Size -6 only.

38182
SAE 45° Swivel 90° Elbow (Long)

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	W Hex
		Size	Thread					
38182-4-4	-4	1/4	7/16-20	1.44	.70	1.80	7/16	9/16



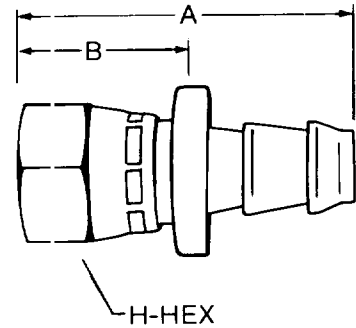
82 Series

82 Series Fittings used with 801, 821, 831 Hose

37G82

Female Pipe Swivel

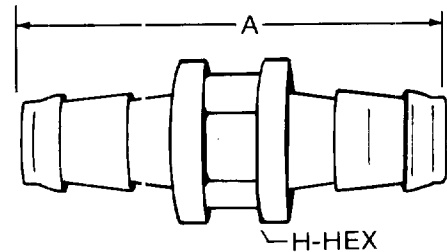
STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex
37G82-4-4	-4	1/4-18	1.55	.79	1 1/16
37G82-4-6	-6	1/4-18	1.70	.80	1 1/16
37G82-6-6	-6	3/8-18	1.75	.85	7/8
37G82-8-8	-8	1/2-14	2.07	1.02	1
37G82-8-10	-10	1/2-14	2.47	1.02	1
37G82-12-12	-12	3/4-14	2.54	1.08	1 1/4



Mates with male pipe threads with or without 30° chamfer.

38282 Hose Union

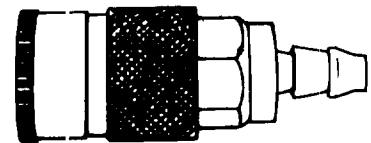
BRASS Part No.	STEEL Part No.	Hose Size	A	H Hex
38282-4-4B	---	-4	1.80	7/16
38282-6-6B	---	-6	2.15	9/16
---	38282-8-8	-8	2.51	1 1/16
---	38282-10-10	-10	3.31	7/8
---	38282-12-12	-12	3.31	1 1/16



Push-Lok Quick-Disconnect Ends For Pneumatic Applications

COUPLER Part No.	NIPPLE Part No.	Used with Hose Size	Connection Size
20-3BP	H8CP	-4	1/4
20-5BP	H9CP	-6	1/4
24-3BP	H4EP	-4	3/8
24-5BP	H5EP	-6	3/8
24-6BP	H6EP	-8	3/8
16-5BP	H4FP	-6	1/2
16-6BP	H5FP	-8	1/2

Coupler



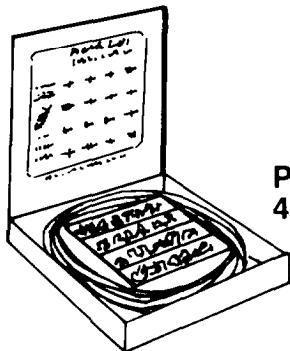
Nipple



For additional information on Quick-Disconnect Couplings, see Page A-118.

Push-Lok Kits

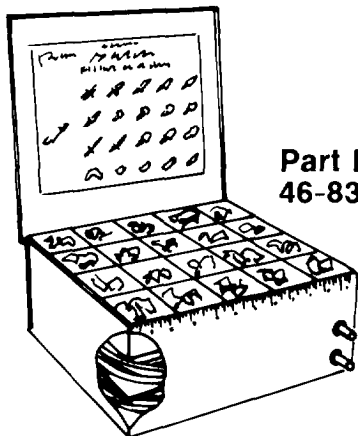
For industrial and automotive maintenance and repair shops, provide a low-cost inventory of Push-Lok hose and ends packaged in a sturdy metal container. They save time and money on hose line replacements for water, air, lubricating oils, anti-freeze solutions, gasoline, diesel fuel and vacuum applications.



**Part No.
4-83A**

CONTENTS

Part Number	Quantity	Part Number	Quantity
Bulk Hose 831-4 (1/4" I.D.)	10 ft.	Female Inverted Rigid 32982-3-4B	1
Male Pipe 30182-2-4B	4	32982-4-4B	2
30182-4-4B	2	32982-5-4B	4
Male SAE 45° 30482-4-4B	1	Straight Tube 33482-4-4B	2
30482-5-4B	2	33482-5-4B	2
SAE (JIC) 37° Fem. Swivel 30682-4-4B	4	Hose Union 38282-4-4B	2
30682-5-4B	2		
Male Inverted Swivel 32882-3-4B	1		
32882-4-4B	4		
32882-5-4B	4		



**Part No.
46-83A**

Part Number	Quantity	Part Number	Quantity
Hose 831-4 (1/4" I.D.)	24 ft.	Male Inverted Swivel 32882-3-4B	3
831-6 (3/8" I.D.)	24 ft.	32882-4-4B	5
Male Pipe 30182-2-4B	8	32882-5-4B	5
30182-4-4B	5	32882-6-6B	3
30182-4-6B	5	Female Inverted Rigid 32982-3-4B	3
30182-6-6B	6	32982-4-4B	3
Male SAE 45° 30482-4-4B	2	32982-5-4B	5
30482-6-6B	3	32982-6-6B	3
SAE (JIC) 37° Fem. Swivel 30682-6-6B	5	Hose Union 38282-4-4B	4
SAE 45° Swivel 30882-4-4B	5	38282-6-6B	2
30882-5-4B	5		
30882-6-6B	5		

Assembly Instructions - 82 Series Push-Lok

To Assemble

1. Cut the hose to desired length cleanly and squarely with a sharp knife.
2. Lubricate the inside of the hose and the barbed end of the fitting with light oil or soapy water. **Grease and heavy oil should not be used.**

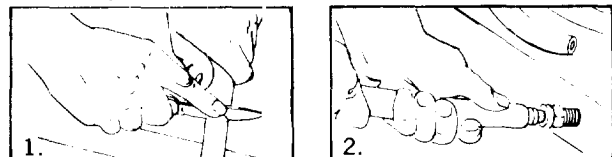
Grasp the hose, "allowing a length equal to the barbed fitting shank to protrude through your fingers." This permits the hose to open up and move onto the fitting easily as you push it against the protective cap. (If you grasp the hose at the extreme end, assembly can be difficult because your grip prevents the hose from opening up.)

CAUTION: Push-Lok fittings will properly grip Push-Lok hose only when pushed all the way in, with the end of the hose completely concealed by the plastic cap.

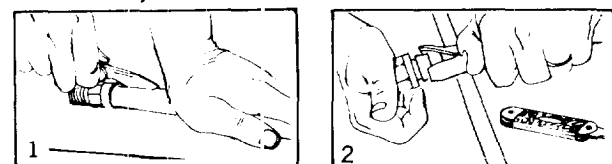
To Disassemble

1. Slit the hose lengthwise from the end of the hose to the end of the barbed shank. Be careful not to nick gripping barb.
2. Grasp the hose near the fitting, snap quickly and it will pop off.

Assembly



Disassembly



88 Series

SAE 100R4 Hose and Clamp-Type Fittings



881 HOSE
Suction & Return

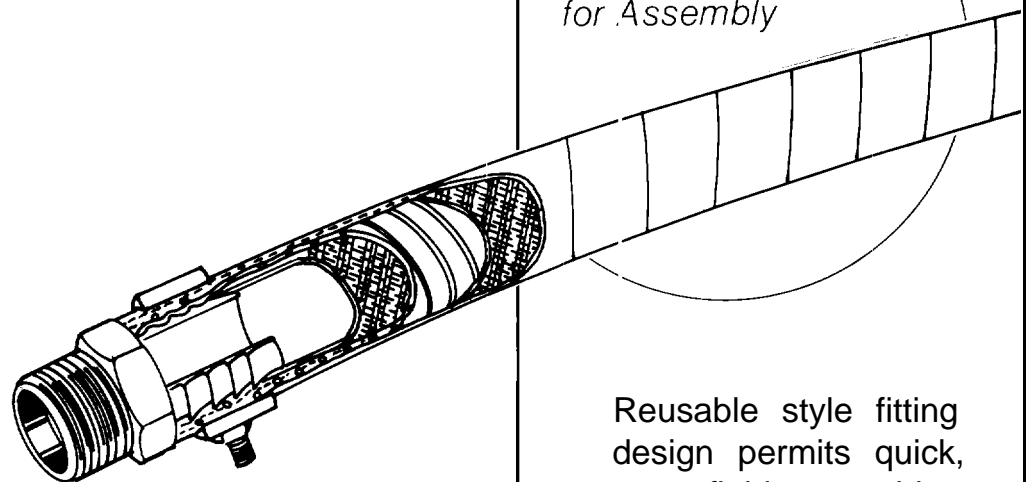
Hose and Fittings

- Unique barb designed for ease of assembly and maximum gripping action.
- Fitting design permits use of two clamp styles for either vacuum or low pressure service.
- Bent tube configurations are standard shelf items.

*For Hydraulic Suction
and Return Lines*

Hose Cover

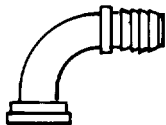
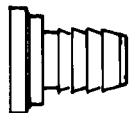
*Need not be removed
for Assembly*



Reusable style fitting design permits quick, easy field assembly without special tools.

*... Just
Replace
The Hose!*

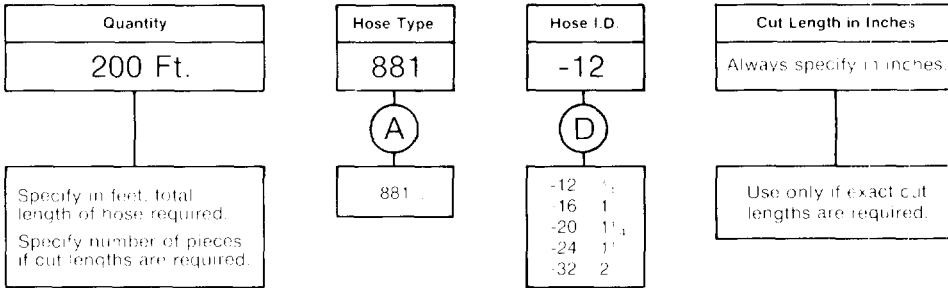
881 Hose and Fittings are engineered and fabricated for optimum strength in suction and return line applications. Hose jackets and reinforcement offer optimum strength without increasing size, weight or stiffness. 88 Series hose and fittings are often used with sump pumps and other low-head pressure applications and are ideal for return lines on any hydraulic system or closed fluid circuitry.



How to Order Hose Only

When ordering hose, specify complete information as illustrated below

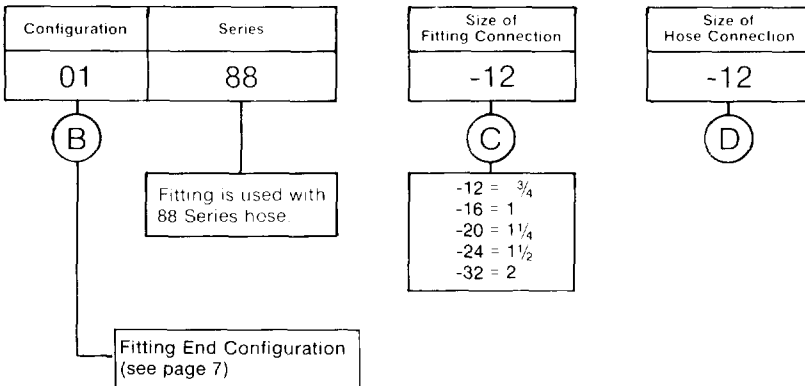
Examples: **200 Ft. 881-12** (bulk hose) **6 pcs. 881-12-120 inches** (exact cut lengths)



How to Order Fittings Only

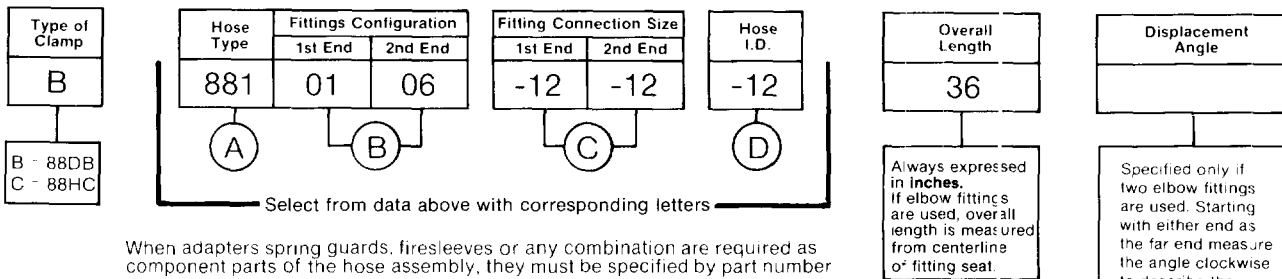
Fittings are ordered by part number as listed in this catalog on pages A - 23 - A-25.

Example **0188-12-12**



How to Order Hose Assemblies

The following example illustrates how to order a hose assembly using 3/4" I.D. 881 hose, with 3/4" male pipe connection on one end, and 3/4" SAE (JIC) 37° swivel connection on the other end. Fittings attached with 8 DB Clamps. Overall length is 36". Example: **B8810106-12-12-12-36"**

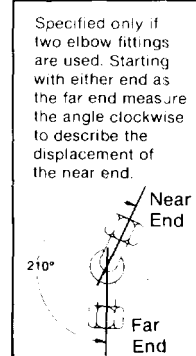


When adapters spring guards, firesleeves or any combination are required as component parts of the hose assembly, they must be specified by part number

Example: **B8810106-12-12-12-36"** with **88 SG-12** (length) and **0107-16-12**

Typical Basic Assembly Numbers

End Connection #1	End Connection #2	01 Male Pipe	05 SAE Str. Thr'd. O-Ring	06 SAE (JIC) 37° Swivel	15 SAE Flange Straight	17 SAE Flange 45° Elbow
01 - Male Pipe		8810101	8810105	8810106	8810115	8810117
05 - SAE Str. Thr'd. O-Ring		8810501	8810505	8810506	8810515	8810517
06 - SAE (JIC) 37° Swivel		8810601	8810605	8810606	8810615	8810617



88 Series

Hose and Reusable Fittings
Suction & Return

881 Hose SAE 100R4



Part No.	Hose I.D.	Maximum O.D.	Recommended Working Pressure P.S.I. 88DB Clamp	Recommended Working Pressure P.S.I. 88HC Clamp	Vacuum Inches of Mercury	Minimum Bend Radius
881-12	3/4	1.30	300	100	25	5
881-16	1	1.55	250	70	25	6
881-20	1 1/4	1.86	200	50	25	8
881-24	1 1/2	2.13	150	50	25	10
881-32	2	2.56	100	—	25	12

Construction: Seamless synthetic rubber tube; reinforced by two textile braids or a woven ply, combined with wire spiraled throughout the textile reinforcement to prevent collapse under vacuum. Synthetic rubber cover.

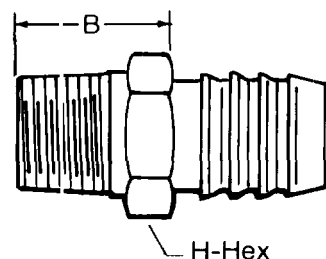
Applications: 881 hose can be used for all hydraulic system hose suction, or return lines.

Temperature Range: SAE rated -40°F to +200°F. (-40°C to +93°C)

88 Series Fittings Used with 881 Hose

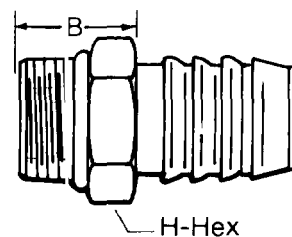
STEEL Part No.	Hose Size	Pipe Thread	B Cut-off Allow.	H Hex
0188-12-12	-12	3/4-14	1.06	1 1/4
0188-16-16	-16	1 -11 1/2	1.38	1 3/8
0188-20-20	-20	1 1/4-11 1/2	1.47	1 3/8
0188-20-24	-24	1 1/4-11 1/2	1.47	1 3/8
0188-24-24	-24	1 1/2-11 1/2	1.50	2 1/8
0188-32-32	-32	2 -11 1/2	1.66	2 5/8

0188 Male Pipe



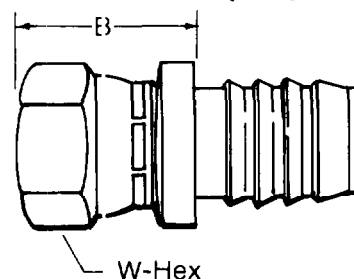
STEEL Part No.	Hose Size	SAE Straight Thread	B Cut-off Allow.	H Hex
0588-12-12	-12	1 1/16-12	1	1 1/4
0588-16-16	-16	1 5/16-12	1	1 1/2
0588-20-20	-20	1 5/8 -12	1	1 7/8
0588-32-32	-32	2 1/2 -12	1	2 3/4

0588 SAE Straight Thread O-Ring



STEEL Part No.	Hose Size	Tube		B Cut-off Allow.	W Hex
		Size	Thread		
0688-12-12	-12	3/4	1 1/16-12	1.55	1 1/4
0688-16-16	-16	1	1 5/16-12	1.66	1 1/2
0688-20-20	-20	1 1/4	1 5/8 -12	1.76	2
0688-24-24	-24	1 1/2	1 7/8 -12	1.94	2 1/4
0688-32-32	-32	2	2 1/2 -12	2.13	2 7/8

0688 SAE (JIC) 37° Swivel

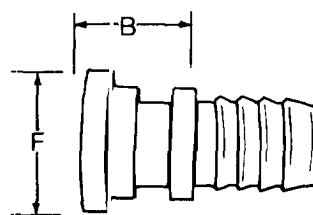


88 Series Fittings Used with 881 Hose

1588

SAE Flange Head Straight

STEEL Part No.	Hose Size	SAE Flange Size	B Cut-off Allow.	F Dia.
1588-16-16	-16	1	1.19	1 $\frac{3}{4}$
1588-20-20	-20	1 $\frac{1}{4}$	1.79	2
1588-24-24	-24	1 $\frac{1}{2}$	2.08	2 $\frac{3}{8}$
1588-32-32	-32	2	2.49	2 $\frac{13}{16}$

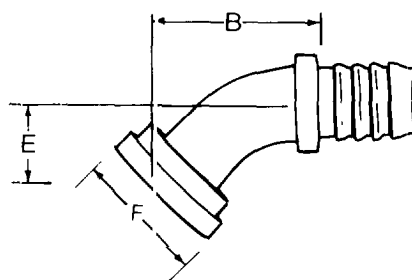


Flange kits listed on page A-114.

1788

SAE Flange Head 45° Elbow

STEEL Part No.	Hose Size	SAE Flange Size	B Cut-off Allow.	E	F Dia.
1788-16-16	-16	1	2.16	1.13	1 $\frac{3}{4}$
1788-20-20	-20	1 $\frac{1}{4}$	2.27	1.13	2
1788-20-24	-24	1 $\frac{1}{4}$	2.27	1.13	2
1788-24-24	-24	1 $\frac{1}{2}$	2.41	1.13	2 $\frac{3}{8}$
1788-32-32	-32	2	2.75	1.25	2 $\frac{13}{16}$

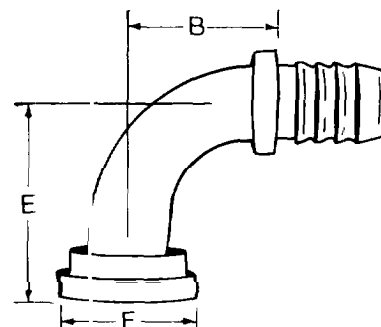


Flange kits listed on page A-114.

1988

SAE Flange Head 90° Elbow

STEEL Part No.	Hose Size	SAE Flange Size	B Cut-off Allow.	E	F Dia.
1988-16-16	-16	1	1.97	2.38	1 $\frac{3}{4}$
1988-20-20	-20	1 $\frac{1}{4}$	2.22	2.50	2
1988-20-24	-24	1 $\frac{1}{4}$	2.46	2.69	2
1988-24-24	-24	1 $\frac{1}{2}$	2.46	2.75	2 $\frac{3}{8}$
1988-32-32	-32	2	2.98	3.25	2 $\frac{13}{16}$

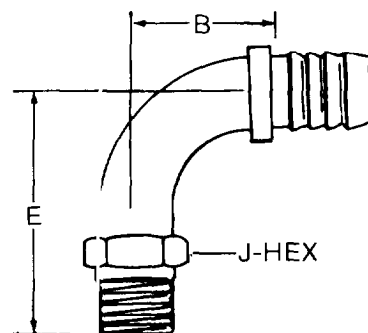


Flange kits listed on page A-114.

2188

Male Pipe 90° Elbow

STEEL Part No.	Hose Size	Male Pipe	B Cut-off Allow.	E	J Hex
2188-12-12	-12	$\frac{3}{4}$ -14	1.72	2.69	1 $\frac{1}{4}$
2188-16-16	-16	1 -11 $\frac{1}{2}$	1.97	3.19	1 $\frac{1}{2}$
2188-20-20	-20	1 $\frac{1}{4}$ -11 $\frac{1}{2}$	2.22	3.41	1 $\frac{5}{8}$
2188-24-24	-24	1 $\frac{1}{2}$ -11	2.46	3.63	2 $\frac{1}{8}$
2188-32-32	-32	2 -11 $\frac{1}{2}$	2.93	4.29	2 $\frac{5}{8}$

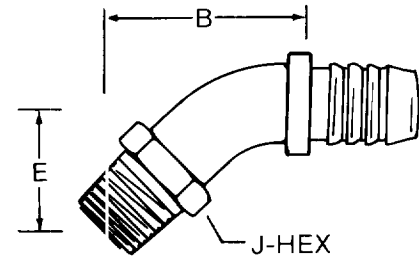


88 Series

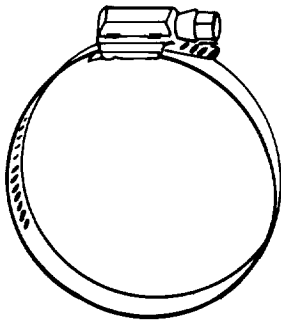
88 Series Fittings Used with 881 Hose

3188 Male Pipe 45° Elbow

STEEL Part No.	Hose Size	Male Pipe	B Cut-off Allow	E	J Hex
3188-16-16	-16	1 -11½	2.79	2.79	1½
3188-20-20	-20	1¼-11½	2.96	2.96	1⅝
3188-32-32	-32	2 -11½	3.48	3.48	2⅝

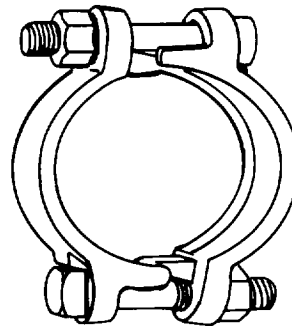


88 HC Low Pressure Hose Clamp



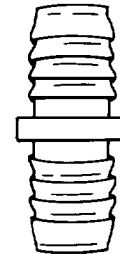
Part No.	Hose Size
88HC-12	-12
88HC-16	-16
88HC-20	-20
88HC-24	-24

88DB Heavy Duty Hose Clamp



Part No.	Hose Size
88DB-12	-12
88DB-16	-16
88DB-20	-20
88DB-24	-24
88DB-32	-32

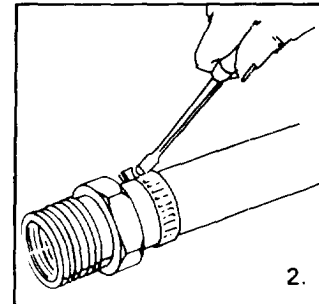
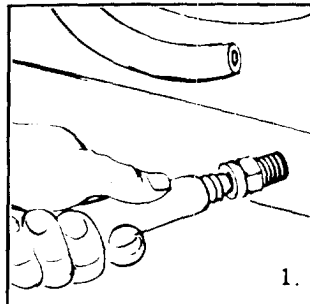
8888 Hose Splicer



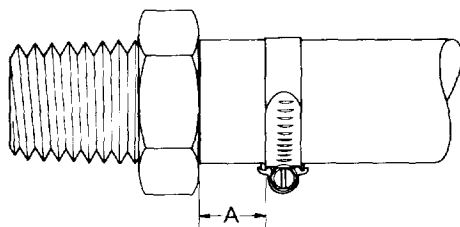
Part No.	Hose Size
8888-12-12	-12
8888-16-16	-16
8888-20-20	-20
8888-24-24	-24
8888-32-32	-32

Assembly Instructions - 88 Series

1. Cut hose cleanly and squarely to length. Trim any exposed wire reinforcement to prevent injury in service.
2. Slide clamp(s) onto hose.
3. Lubricate hose. Push hose onto fitting until hose bottoms against stop ring or hex.
4. Position hose clamp(s) as shown below and secure with a screwdriver or wrench. Maintain "A" dimension noted below for proper clamp positioning of both HC and DB clamps.



Note: When assembling an 88DB clamp it is important to tighten the DB nuts uniformly.



Hose Size	A
-12	1/4"
-16	3/8"
-20	3/8"
-24	1/2"
-32	1/2"

20 Series

Medium Pressure SAE 100R5 Type



201 HOSE
Single Wire Braid



204 HOSE
For Phosphate Ester Fluids



221 HOSE
Rubber Cover



231 HOSE
For Freon 12



235 HOSE
Nylon Inner Tube



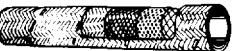
241 HOSE
Heavy Duty Freon 12



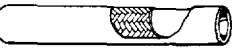
261 HOSE
Hi-Temp



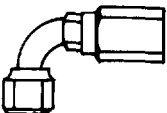
SS25 HOSE
Universal Truck Hi-Temp



SS25UL HOSE
LP-Gas Service



2LPG HOSE
LP-Gas Service



Hose

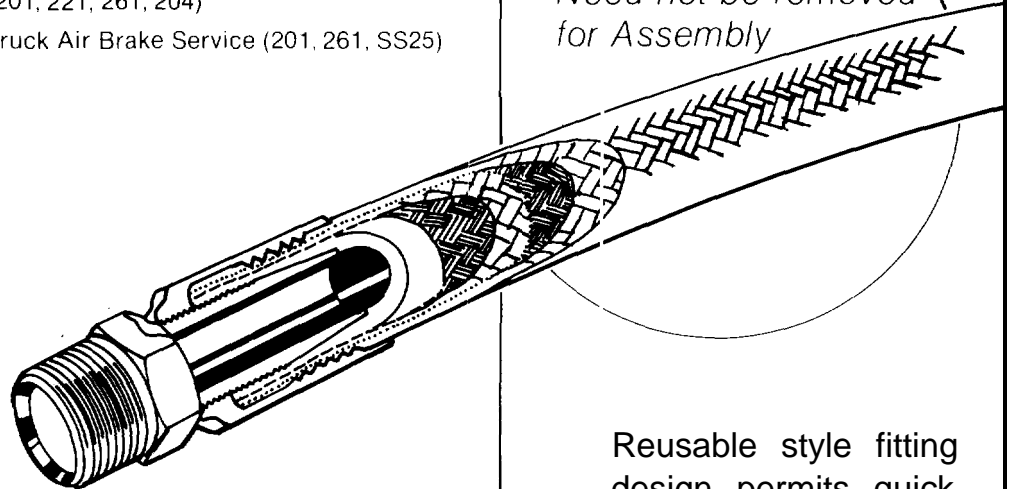
Ten Different Types

For a wide range of Applications

- Medium Pressure Hydraulic Fluids (201, 221, 261)
- Medium Pressure Hydraulic Fire-Resistant Fluids (204)
- Refrigerant Applications, Industrial and Truck (241, 231, 235)
- General Purpose Diesel Truck (261, SS25)
- L.P. Gas Systems (SS25UL, 2LPG)
- Hydraulic Pump Inlet Lines (201, 221, 261, 204)
- Truck Air Brake Service (201, 261, SS25)

Hose Cover

Need not be removed for Assembly



Reusable style fitting design permits quick, easy-field assembly without special tools.

*... Just
Replace
The Hose!*

Fittings

Two Standard Reusable Fitting Styles

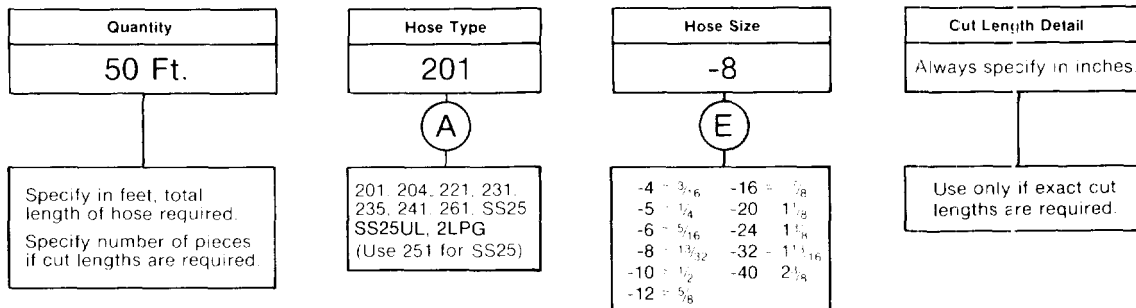
Fits all ten hose types

- 20 Series, non-mandrel type do not require mandrel or adapters for field make-up.
- 22 Series, full flow design, mandrel style for applications requiring minimum pressure drop.
- All 20, 22 Series, marked in accordance with D.O. T FM VSS106.

How to Order Hose Only

When ordering hose, specify complete information as illustrated below.

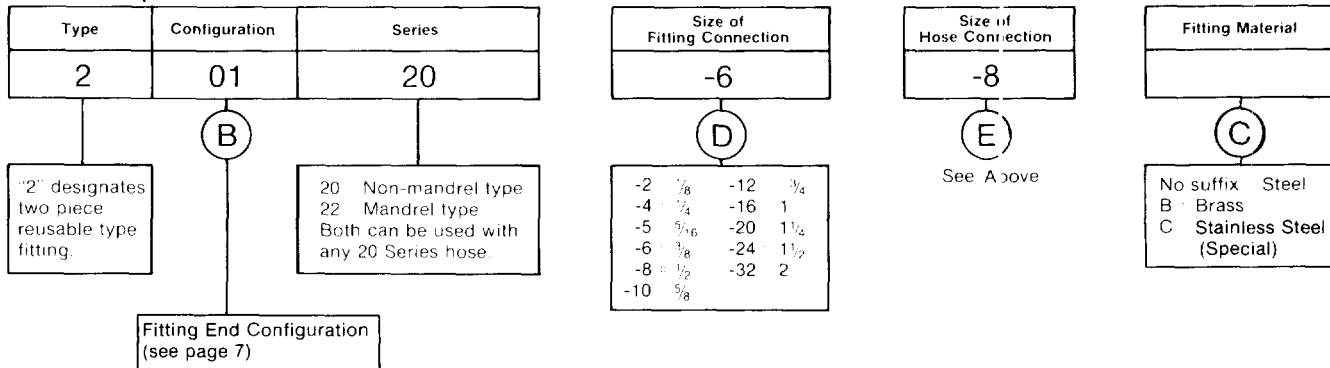
Examples: **50 Ft. 201-8 (bulk hose)** **5 pc. 201-8-120 inches (exact cut lengths)**



How to Order Fittings Only

Fittings are ordered by part number, as listed in this catalog on pages A-32 - A-44.

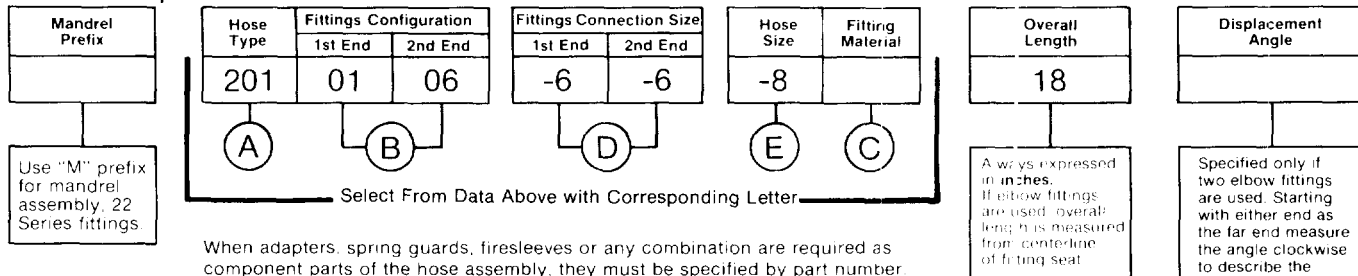
Example: **20120-6-8**



How to Order Hose Assemblies

The following example illustrates how to order a hose assembly using 13/32" I.D. 201 hose, with 3/8" male pipe fitting on one end, 3/8" SAE (JIC) 37° swivel on the other end. Fittings are non-mandrel style. Overall length is 18".

Example: **2010106-6-6-8-18"**

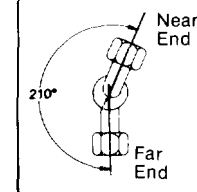


When adapters, spring guards, firesleeves or any combination are required as component parts of the hose assembly, they must be specified by part number.

Example: **2010101-6-6-6-24"** with 20SG-6 (length)
2010101-6-6-6-24" with 0107-8-6 Adapter

Typical Basic Assembly Numbers

End Connection #1	End Connection #2	01 Male Pipe	05 Male SAE Straight Thrd.	06 SAE (JIC) 37° Swivel	08 SAE 45° Swivel	39 SAE (JIC) 37° Swivel Elbow
01 Male Pipe		2010101	2010105	2010106	2010108	2010139
03 Male SAE (JIC) 37°		2010301	2010305	2010306	2010308	2010339
04 Male SAE 45°		2010401	2010405	2010406	2010408	2010439



20 Series

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius	Vacuum Inches of Mercury
201-4	3/16	.52	3,000	12,000	3	28
201-5	1/4	.58	3,000	12,000	3 3/8	28
201-6	5/16	.67	2,250	9,000	4	28
201-8	13/32	.77	2,000	8,000	4 5/8	28
201-10	1/2	.92	1,750	7,000	5 1/2	28
201-12	5/8	1.08	1,500	6,000	6 1/2	28
201-16	7/8	1.23	800	3,200	7 3/8	20
201-20	1 1/8	1.50	625	2,500	9	20
201-24	1 3/8	1.75	500	2,000	10 1/2	15
201-32	1 13/16	2.22	350	1,400	13 1/4	11
201-40	2 3/8	2.88	350	1,400	24	11

*Usage at temperatures exceeding +200°F is based on reduced working pressure.

201 Hose SAE 100R5 SAE J1402C



Construction: Synthetic rubber tube, textile inner braid, high tensile steel wire braid reinforcement polyester braid cover, impregnated with an oil, mildew and fire resistant synthetic rubber compound.

Applications: Medium pressure service — petroleum base hydraulic fluids, water-glycol fire-resistant hydraulic fluids, water, crude and fuel oils, hot oil, diesel fuels, gasoline, anti-freeze solutions, air.

Approved for air brake requirements and D.O.T. FMVSS 106-AII Brake Hose Requirements.

Temperature Range: -40°F to +300°F* (-40°C to +149°C)

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius	Vacuum Inches of Mercury
204-4	3/16	.52	3,000	12,000	3	28
204-5	1/4	.58	3,000	12,000	3 3/8	28
204-6	5/16	.67	2,250	9,000	4	28
204-8	13/32	.77	2,000	8,000	4 5/8	28
204-10	1/2	.92	1,750	7,000	5 1/2	28
204-12	5/8	1.08	1,500	6,000	6 1/2	28
204-16	7/8	1.23	800	3,200	7 3/8	20
204-20	1 1/8	1.50	625	2,500	9	20
204-24	1 3/8	1.75	500	2,000	10 1/2	15
204-32	1 13/16	2.22	350	1,400	13 1/4	11

204 Hose SAE 100R5 Type with Special Liner For Fire Resistant Fluids



Construction: Special tube, textile inner braid, high tensile steel wire braid reinforcement, green polyester braid cover, impregnated with an oil, mildew and fire resistant synthetic rubber compound.

Applications: Medium pressure — phosphate ester base fire-resistant hydraulic fluids, air, gases.

Temperature Range: -40°F to +200°F (-40°C to +93°C)

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius	Vacuum Inches of Mercury
221-4	3/16	.52	3,000	12,000	3	28
221-5	1/4	.58	3,000	12,000	3 3/8	28
221-6	5/16	.67	2,250	9,000	4	28
221-8	13/32	.77	2,000	8,000	4 5/8	28
221-10	1/2	.92	1,750	7,000	5 1/2	28
221-12	5/8	1.08	1,500	6,000	6 1/2	28
221-16	7/8	1.23	800	3,200	7 3/8	20
221-20	1 1/8	1.50	625	2,500	9	20
221-24	1 3/8	1.75	500	2,000	10 1/2	15
221-32	1 13/16	2.22	350	1,400	13 1/4	11

*Usage at temperatures exceeding +200°F is based on reduced working pressure.

221 Hose SAE 100R5 Type with Rubber Cover



Construction: Synthetic rubber tube, textile inner braid, high tensile steel wire braid reinforcement, thin rubber cover over the outer textile braid.

Applications: Medium pressure service — petroleum base hydraulic fluids, water-glycol fire-resistant hydraulic fluids, water, crude and fuel oils, hot oil, diesel fuels, gasoline, anti-freeze solutions, air. Used where a rubber cover is preferred. Passed U.S. Bureau of Mines Flame Test. (MSHA).

Temperature Range: -40°F to +250°F* (-40°C to +121°C)

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius
231-4	3/16	.52	500	2,000	3 1/4
231-5	1/4	.58	500	2,000	3 3/8
231-6	5/16	.67	500	2,000	4
231-8	13/32	.77	500	2,000	4 5/8
231-10	1/2	.92	500	2,000	5 1/2
231-12	5/8	1.08	500	2,000	6 1/2
231-16	7/8	1.23	400	1,750	7 1/2
231-20	1 1/8	1.50	400	1,750	9

231 Hose Freon 12 Service and Low Pressure Hydraulic SAE J51b Type A



Construction: Low diffusion rate, seamless oil resistant synthetic inner tube; reinforced by one ply or more of textile braid; and a weather resistant synthetic rubber cover perforated to prevent formation of blisters.

Applications: For Freon 12 or 13 use on truck refrigeration and air conditioning and automotive air conditioning.

Temperature Range: -20° F to +250° F. (-29° C to +121° C)

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius
235-4	3/16	.52	875	3,500	3
235-6	5/16	.67	750	3,000	4
235-8	13/32	.77	625	2,500	4 5/8
235-10	1/2	.92	625	2,500	5 1/2
235-12	5/8	1.08	625	2,500	6 1/2
235-16	7/8	1.23	440	1,750	7 3/8
235-20	1 1/8	1.50	375	1,500	9
235-24	1 3/8	1.75	375	1,500	10 1/2

235 Hose Freon 12 and 22 Service and Low Pressure Hydraulic



Construction: Low diffusion rate, seamless Nylon inner tube; reinforced by one ply or more of textile braid; and a weather resistant synthetic rubber cover perforated to prevent formation of blisters.

Applications: For Freon 12 or 22 use on truck refrigeration and air conditioning and automotive air conditioning.

Low pressure hydraulic applications up to 875 PSI including use with fire resistant hydraulic fluids and heavy duty air.

Temperature Range: -40° F to +212° F. (-40° C to 100° C)

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius	Vacuum Inches of Mercury
241-4	3/16	.52	500	2,000	3	28
241-5	1/4	.58	500	2,000	3 3/8	28
241-6	5/16	.67	500	2,000	4	28
241-8	13/32	.77	500	2,000	4 5/8	28
241-10	1/2	.92	500	2,000	5 1/2	28
241-12	5/8	1.08	500	2,000	6 1/2	28
241-16	7/8	1.23	500	2,000	7 3/8	28
241-20	1 1/8	1.50	500	2,000	9	28
241-24	1 3/8	1.75	300	1,200	10 1/2	28
241-32	1 13/16	2.22	300	1,200	13 1/4	28

241 Hose Freon 12 Heavy Duty Service SAE J51b Type B



Construction: Low diffusion rate, seamless, oil resistant synthetic inner tube; especially compounded for low refrigerant loss, red textile cover, single wire braid reinforcement.

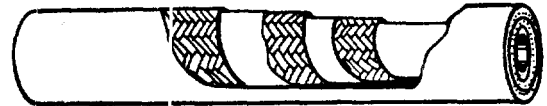
Applications: Designed for use with Freon 12 or 13. Not recommended for Freon 22 applications.

Temperature Range: -15° F to +250° F. (-26° C to +121° C)

20 Series

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius	Vacuum Inches of Mercury
261-4	3/16	.52	2,500	10,000	3	28
261-5	1/4	.58	2,250	10,000	3 3/8	28
261-6	5/16	.67	2,000	9,000	4	28
261-8	13/32	.77	1,850	8,000	4 5/8	28
261-10	1/2	.92	1,400	7,000	5 1/2	28
261-12	5/8	1.08	1,200	6,000	6 1/2	28
261-16	7/8	1.23	600	2,000	7 3/8	26
261-20	1 1/8	1.50	500	1,600	9	26
261-24	1 3/8	1.75	250	1,000	10 1/2	26
261-32	1 13/16	2.22	250	1,000	13 1/4	20

261 Hose High-Temp SAE J1402C



Construction: Seamless oil resistant synthetic rubber high temperature tube, textile inner braid, high tensile steel wire braid reinforcement, polyester braid cover impregnated with an oil, mildew and fire resistant synthetic rubber compound.

Application: Medium pressure hydraulic and turbo charger, filtration and lube oil lines, fuel filter, engine and transmission coolant lines, air brake, power steering, and tilt cab. Pennsylvania State approved for use as air brake hose (SAE J1402C) and D.O.T.-FMVSS 106-AII Brake Hose Requirements.

Temperature Range: -40°F to +300°F. (-40°C to +149°C)

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius
SS25-4	3/16	.52	1,500	6,000	3/4
SS25-5	1/4	.58	500	2,000	1
SS25-6	5/16	.67	500	2,000	1 1/4
SS25-8	13/32	.77	500	2,000	1 3/4
SS25-10	1/2	.92	450	1,800	2 1/4
SS25-12	5/8	1.08	450	1,800	2 3/4
SS25-16	7/8	1.23	250	1,000	3 1/2
SS25-20	1 1/8	1.50	250	1,000	4 1/2

SS 25 Hose General Purpose Truck and Bus Service SAE J1402C



Construction: Specially compounded heat resistant synthetic rubber seamless tube. Single braid of stainless steel wire and two layers of polyester braid. The cover is impregnated with oil, mildew and fire resistant rubber compound.

Application: All low pressure high temperature truck and marine applications.

Meets SAE J1402C and D.O.T. FMVSS 106-AII Brake Hose Requirements. **Meets Coast Guard Requirements: 46 CRF 56.60.25C and Marine Department Underwriter's Lab. when used with Firesleeve.**

Temperature Range: -55°F to +300°F (-48°C to +145°C) inner tube specially compounded to resist temperatures up to +300°F without cracking.

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius
SS25UL-4	3/16	.52	350	1,750	1 1/2
SS25UL-5	1/4	.58	350	1,750	1 3/4
SS25UL-6	5/16	.67	350	1,750	2
SS25UL-8	13/32	.77	350	1,750	2 5/16
SS25UL-10	1/2	.92	350	1,750	2 3/4
SS25UL-12	5/8	1.08	350	1,750	3 1/4

SS 25 UL Hose UL Approved for LPG Service



Construction: Seamless oil resistant synthetic rubber high temperature tube, one stainless steel wire braid and two polyester braids. The cover is impregnated with a fire and mildew resistant synthetic rubber compound.

Application: High pressure service (250-350 PSI) with liquefied petroleum gas.

Temperature Range: -40°F to +250°F. (-40°C to +121°C)

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius
2LPG-4	3/16	.52	350	1,750	3
2LPG-5	1/4	.58	350	1,750	3 3/8
2LPG-6	5/16	.67	350	1,750	4
2LPG-8	13/32	.77	350	1,750	4 5/8
2LPG-10	1/2	.92	350	1,750	5 1/2
2LPG-12	5/8	1.08	350	1,750	6 1/2

Assemble fittings on 2LPG with Unipar Sealant. (Patent Applied For.)

2LPG Hose UL Approved For LPG Service



Construction: Low diffusion rate, seamless NYLON inner tube; reinforced by one ply or more of textile braid; and a weather resistant synthetic rubber cover perforated to prevent formation of blisters.

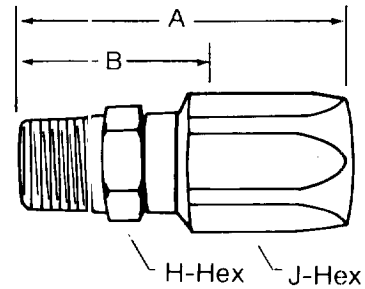
Application: High pressure service (250-350 PSI) with liquefied petroleum gas.

Temperature Range: -40F to +212°F. (-40°C to 100°C)

20 Series Fittings used with 201, 204, 221, 231, 235, 241, 261, SS25, 2LPG Hose

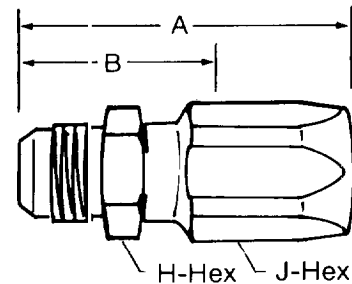
STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	J Hex
20120-2-4	-4	1/8-27	1.68	.93	7/16	5/8
20120-4-4	-4	1/4-18	1.87	1.12	9/16	5/8
20120-2-5	-5	1/8-27	1.78	1.00	1/2	1 1/16
20120-4-5	-5	1/4-18	1.96	1.18	9/16	1 1/16
20120-4-6	-6	1/4-18	2.13	1.23	9/16	1 3/16
20120-6-6	-6	3/8-18	2.13	1.23	1 1/64	1 3/16
20120-6-8	-8	3/8-18	2.48	1.33	3/4	1 5/16
20120-8-8	-8	1/2-14	2.73	1.58	7/8	1 5/16
20120-8-10	-10	1/2-14	2.88	1.59	7/8	1 1/8
20120-12-10	-10	3/4-14	2.94	1.65	1 1/16	1 1/8
20120-12-12	-12	3/4-14	3.24	1.67	1 1/16	1 1/4
20120-12-16	-16	3/4-14	2.80	1.53	1 3/8	1 7/16
20120-16-16	-16	1 -11 1/2	2.99	1.72	1 3/8	1 7/16
20120-20-20	-20	1 1/4-11 1/2	3.24	1.88	1 3/4	1 3/4
20120-24-24	-24	1 1/2-11 1/2	3.48	2.03	2	2
20120-32-32	-32	2 -11 1/2	4.05	2.21	2 1/2	2 1/2
20120-40-40	-40	2 1/2- 8	5.03	3.12	3	3 1/4

20120 Male Pipe



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20320-4-4	-4	1/4	7/16-20	1.85	1.10	1/2	5/8
20320-5-5	-5	5/16	1/2-20	1.95	1.17	9/16	1 1/16
20320-6-6	-6	3/8	9/16-18	2.12	1.22	5/8	1 3/16
20320-8-8	-8	1/2	3/4-16	2.57	1.42	1 3/16	1 5/16
20320-10-10	-10	5/8	7/8-14	2.88	1.60	1 5/16	1 1/8
20320-12-12	-12	3/4	1 1/16-12	3.35	1.78	1 1/8	1 1/4
20320-16-16	-16	1	1 5/16-12	2.96	1.69	1 3/8	1 7/16
20320-20-20	-20	1 1/4	1 5/8-12	3.22	1.86	1 3/4	1 3/4
20320-32-32	-32	2	2 1/2-12	4.34	2.50	2 1/2	2 1/2

20320 Male SAE (JIC) 37°



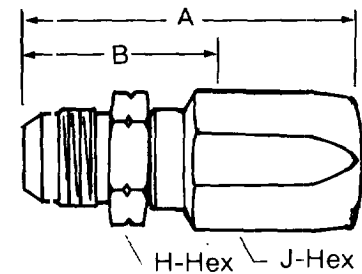
Hose and Reusable Fittings
Medium Pressure

20 Series

20 Series Fittings used with 201, 204, 221, 231, 235, 241, 261, SS25, SS25UL, 2LPG Hose

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20420-4-4	-4	1/4	7/16-20	1.80	1.06	1/2	5/8
20420-5-5	-5	5/16	1/2-20	1.97	1.18	9/16	11/16
20420-6-6	-6	3/8	5/8-18	2.19	1.28	11/16	13/16
20420-8-8	-8	1/2	3/4-16	2.66	1.51	13/16	15/16
20420-10-10	-10	5/8	7/8-14	3.00	1.72	15/16	1 1/8
20420-12-12	-12	3/4	1 1/16-14	3.50	1.92	1 1/8	1 1/4

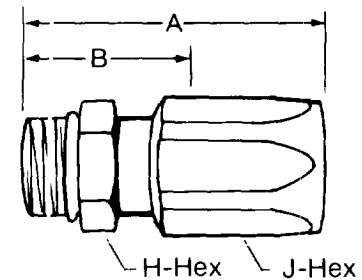
20420
Male SAE 45°



Notch in Hex for SAE Identification.
Sizes -6 and -12 only.

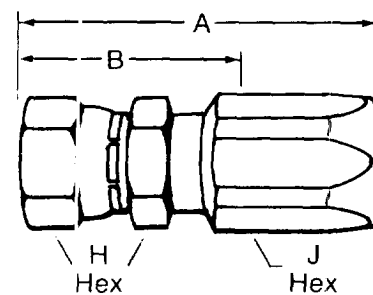
STEEL Part No.	Hose Size	SAE Straight Thread	A	B Cut-off Allow.	H Hex	J Hex
20520-4-4	-4	7/16-20	1.66	.92	9/16	5/8
20520-5-5	-5	1/2-20	1.76	.98	5/8	11/16
20520-6-6	-6	9/16-18	1.95	1.05	11/16	13/16
20520-8-8	-8	3/4-16	2.35	1.20	7/8	15/16
20520-10-10	-10	7/8-14	2.63	1.34	1	1 1/8
20520-16-16	-16	1 5/16-12	2.67	1.38	1 1/2	1 7/16

20520
SAE Straight Thread O-Ring



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20620-4-4	-4	1/4	7/16-20	1.97	1.23	9/16	5/8
20620-4-5	-5	1/4	7/16-20	2.07	1.29	9/16	11/16
20620-5-5	-5	5/16	1/2-20	2.12	1.35	5/8	11/16
20620-6-5	-5	3/8	9/16-18	2.23	1.46	11/16	11/16
20620-6-6	-6	3/8	9/16-18	2.33	1.43	11/16	13/16
20620-8-8	-8	1/2	3/4-16	2.78	1.62	7/8	15/16
20620-8-10	-10	1/2	3/4-16	2.98	1.69	7/8	1 1/8
20620-10-10	-10	5/8	7/8-14	3.10	1.81	1	1 1/8
20620-10-12	-12	5/8	7/8-14	3.39	2.01	1	1 1/4
20620-12-12	-12	3/4	1 1/16-12	3.49	1.92	1 1/4	1 1/4
20620-16-16	-16	1	1 5/16-12	3.19	1.93	1 1/2	1 7/16
20620-20-20	-20	1 1/4	1 5/8-12	3.55	2.19	2	1 3/4
20620-24-24	-24	1 1/2	1 7/8-12	3.93	2.47	2 1/4	2
20620-32-32	-32	2	2 1/2-12	4.71	2.87	2 7/8	2 1/2

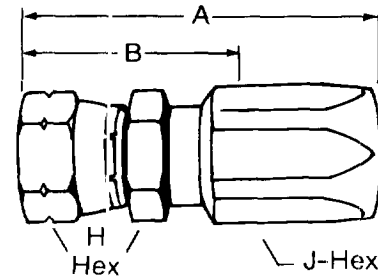
20620
SAE (JIC) 37° Swivel



20 Series Fittings used with 201, 204, 221, 231, 235, 241, 261, SS25, SS25UL, 2LPG Hose

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20820-4-4	-4	1/4	7/16-20	1.97	1.23	9/16	5/8
20820-5-5	-5	5/16	1/2-20	2.12	1.35	5/8	11/16
20820-6-6	-6	3/8	5/8-18	2.36	1.46	3/4	13/16
20820-8-8	-8	1/2	3/4-16	2.78	1.62	7/8	15/16
20820-8-10	-10	1/2	3/4-16	2.55	1.26	7/8	1 1/8
20820-10-10	-10	5/8	7/8-14	3.10	1.81	1	1 1/8
20820-12-12	-12	3/4	1 1/16-14	3.49	1.92	1 1/4	1 1/4

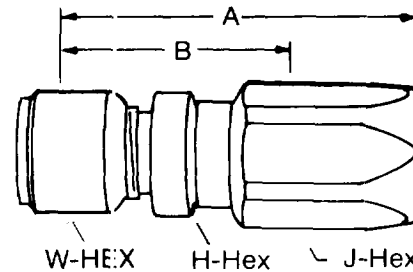
**20820
SAE 45° Swivel**



Notch in nut for SAE identification.
Sizes -6 and -12 only.

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H HEX	J Hex	W Hex
		Size	Thread					
21120-4-4	-4	1/4	7/16-20	1.81	1.06	1/2	5/8	9/16
21120-5-5	-5	5/16	1/2-20	1.90	1.12	9/16	11/16	5/8
21120-4-6	-6	1/4	7/16-20	2.03	1.13	9/16	13/16	9/16
21120-6-6	-6	3/8	9/16-18	2.05	1.15	5/8	13/16	1 1/16
21120-8-8	-8	1/2	3/4-16	2.52	1.37	13/16	15/16	7/8
21120-10-10	-10	5/8	7/8-14	2.76	1.48	15/16	1 1/8	1

**21120
Ferrul-Fix
(SAE Flareless)**

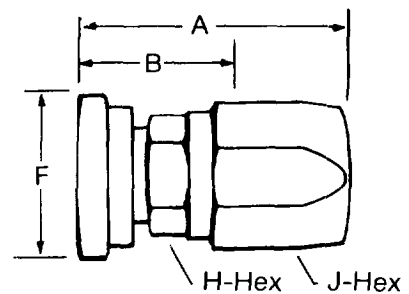


The Ferrul-Fix fitting makes it possible to salvage the bent tube section from a hose assembly for quick, easy, on the job repairs.

See Page A-104 for
Installation Instructions

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	F Flange Dia.	H Hex	J Hex
21520-8-8	-8	1/2	2.77	1.62	1.19	5/8	15/16
21520-12-12	-12	3/4	3.16	1.59	1.50	7/8	1 1/4
21520-16-16	-16	1	2.77	1.50	1.75	1 1/8	1 7/16
21520-20-20	-20	1 1/4	3.58	2.21	2.00	1 1/2	1 3/4
21520-24-24	-24	1 1/2	4.02	2.56	2.38	1 3/4	2
21520-32-32	-32	2	4.92	3.08	2.81	2 1/4	2 1/2
21520-40-40	-40	2 1/2	5.22	3.34	3.31	2 7/8	3 1/8

**21520
SAE Flange Head Straight**



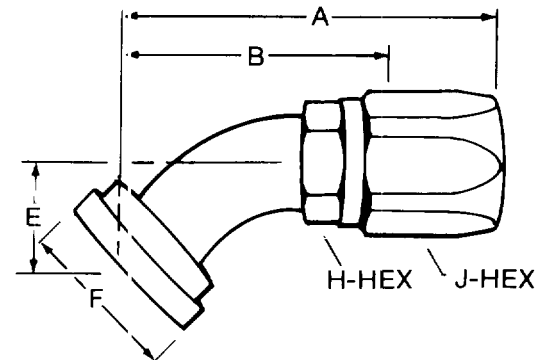
Flange kits listed on page A-114.

20 Series

20 Series Fittings used with 201, 204, 221, 231, 235, 241, 261, SS25, SS25UL, 2LPG Hose

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21720-8-8	-8	1/2	3.44	2.30	1.00	1.19	5/8	15/16
21720-12-12	-12	3/4	4.02	2.45	1.00	1.50	7/8	1 1/4
21720-16-16	-16	1	3.80	2.53	1.12	1.75	1 1/8	1 7/16
21720-20-20	-20	1 1/4	4.12	2.75	1.12	2.00	1 1/2	1 3/4
21720-24-24	-24	1 1/2	4.38	2.92	1.12	2.38	1 3/4	2
21720-32-32	-32	2	5.18	3.33	1.25	2.81	2 1/4	2 1/2
21720-40-40	-40	2 1/2	5.80	3.92	1.39	3.31	2 7/8	3 1/8

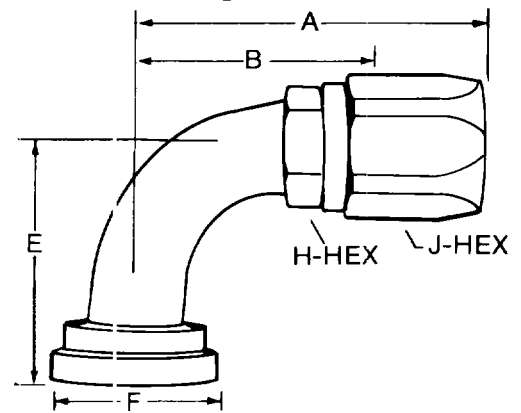
21720
SAE Flange Head 45° Elbow



Flange kits listed on page A-114.

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21920-8-8	-8	1/2	2.88	1.73	1.62	1.19	5/8	15/16
21920-12-12	-12	3/4	3.74	2.17	2.12	1.50	7/8	1 1/4
21920-16-16	-16	1	3.55	2.28	2.38	1.75	1 1/8	1 7/16
21920-20-20	-20	1 1/4	4.01	2.65	2.50	2.00	1 1/2	1 3/4
21920-24-24	-24	1 1/2	4.42	2.97	2.75	2.38	1 3/4	2
21920-32-32	-32	2	5.39	3.55	3.25	2.81	2 1/4	2 1/2
21920-40-40	-40	2 1/2	6.17	4.28	3.75	3.31	2 7/8	3 1/8

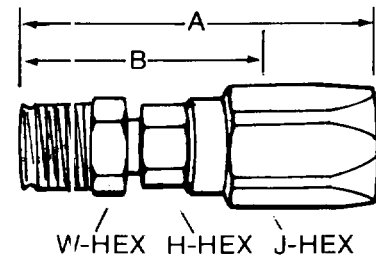
21920
SAE Flange Head 90° Elbow



Flange kits listed on page A-114.

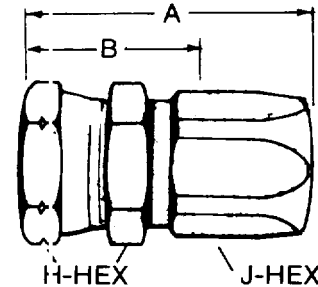
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	W Hex
		Size	Thread					
22820-4-4	-4	1/4	7/16-24	2.46	1.71	3/8	5/8	7/16
22820-5-5	-5	5/16	1/2-20	2.62	1.84	7/16	1 1/16	1/2
22820-6-6	-6	3/8	5/8-18	2.72	1.82	1/2	13/16	5/8
22820-8-8	-8	1/2	3/4-18	3.13	1.98	5/8	15/16	3/4
22820-10-10	-10	5/8	7/8-18	3.15	1.95	3/4	1 1/8	7/8

22820
SAE Male Inverted Swivel



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
23220-16-16	-16	1	1 5/16-14	2.98	1.71	1 1/2	1 7/16
23220-20-20	-20	1 1/4	1 5/8-14	3.48	2.12	2	1 3/4
23220-24-24	-24	1 1/2	1 7/8-14	3.88	2.42	2 1/4	2
23220-32-32	-32	2	2 1/2-12	4.71	2.87	2 7/8	2 1/2

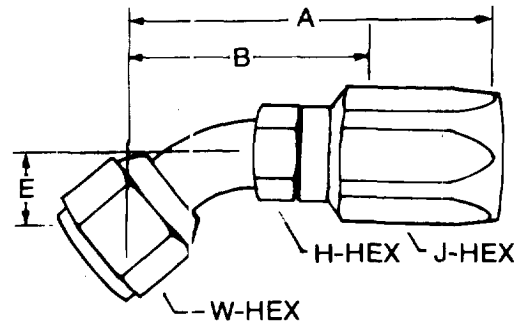
23220
PTT 30° Swivel



20 Series Fittings used with 201, 204, 221, 231, 235, 241, 261, SS25, SS25UL, 2LPG Hose

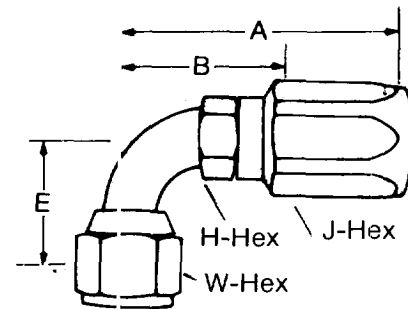
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23720-4-4	-4	1/4	7/16-20	1.85	1.10	.33	3/8	5/8	9/16
23720-5-5	-5	5/16	1/2-20	2.07	1.29	.36	7/16	1 1/16	5/8
23720-6-6	-6	3/8	9/16-18	2.23	1.33	.40	1/2	13/16	1 1/16
23720-8-6	-6	1/2	3/4-16	2.69	1.74	.55	7/8	5/8	13/16
27320-8-8	-8	1/2	3/4-16	2.99	1.84	.55	5/8	15/16	7/8
23720-10-10	-10	5/8	7/8-14	3.24	1.95	.64	3/4	1 1/8	1
23720-12-12	-12	3/4	1 1/16-12	3.78	2.21	.78	7/8	1 1/4	1 1/4
23720-16-16	-16	1	1 5/16-12	3.56	2.30	.89	1 1/8	1 7/16	1 1/2

23720
SAE (JIC) 37° Swivel 45° Elbow



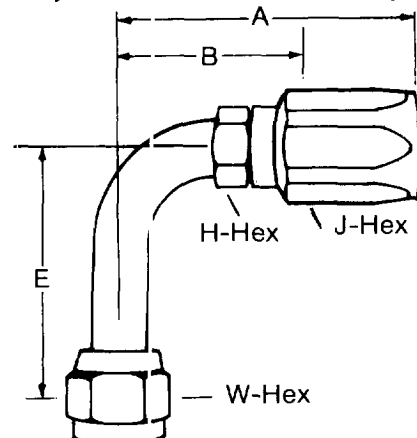
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23920-4-4	-4	1/4	7/16-20	1.74	.99	.68	3/8	5/8	9/16
23920-5-5	-5	5/16	1/2-20	1.96	1.18	.77	7/16	1 1/16	5/8
23920-6-6	-6	3/8	9/16-18	2.13	1.23	.85	1/2	13/16	1 1/16
23920-8-8	-8	1/2	3/4-16	2.76	1.61	1.09	5/8	15/16	7/8
23920-10-10	-10	5/8	7/8-14	2.94	1.65	1.23	3/4	1 1/8	1
23920-12-12	-12	3/4	1 1/16-12	3.74	2.17	1.82	7/8	1 1/4	1 1/4
23920-16-16	-16	1	1 5/16-12	3.55	2.28	2.14	1 1/8	1 7/16	1 1/2
23920-20-20	-20	1 1/4	1 3/8-12	4.02	2.65	2.35	1 1/2	1 3/4	2

23920
SAE (JIC) 37° Swivel 90° Elbow



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
24120-4-4	-4	1/4	7/16-20	1.74	.99	1.80	3/8	5/8	9/16
24120-5-5	-5	5/16	1/2-20	1.96	1.18	1.77	7/16	1 1/16	5/8
24120-6-6	-6	3/8	9/16-18	2.13	1.23	2.18	1/2	13/16	1 1/16
24120-8-8	-8	1/2	3/4-16	2.98	1.73	2.43	5/8	15/16	7/8
24120-10-10	-10	5/8	7/8-14	3.19	1.90	2.57	3/4	1 1/8	1
24120-12-12	-12	3/4	1 1/16-12	3.74	2.17	3.73	7/8	1 1/4	1 1/4
24120-16-16	-16	1	1 5/16-12	3.55	2.28	4.33	1 1/8	1 7/16	1 1/2

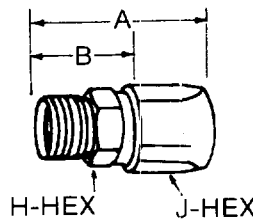
24120
SAE (JIC) 37° Swivel 90° Elbow (Long)



20 Series

20 Series Fittings used with 201, 204, 221, 231, 235, 241, 261, SS25, SS25UL, 2LPG **Hose**

Part No.	Hose Size	Tube		A	B Cut-off Allow.	J Hex	H Hex
		Size	Thread				
26120-10-10	-10	5/8	13/16-18	2.64	1.35	1 1/8	7/8



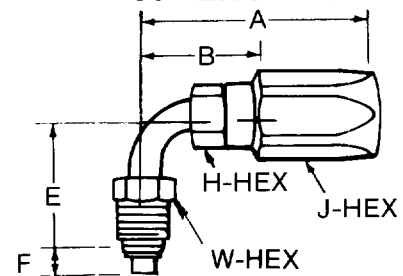
26120
SAE Air Brake
(Use with HAB Nut and Sleeve - Page 97)
For use with 201, 261, and SS25 Hose

20 Series Tube O-Ring Air Conditioning and Refrigeration Fittings

For use with 231, 235, and 241 Hose

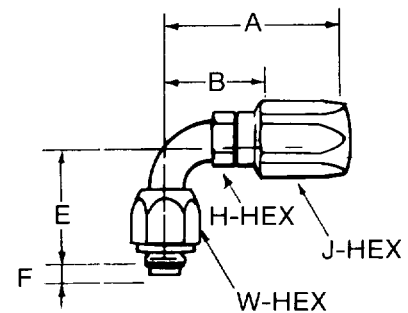
Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	F	J Hex	H Hex	W Hex
		Size	Thread							
25K20-6-6	-6	3/8	5/8-18	2.47	1.57	1.76	.18	13/16	1/2	5/8
25K20-10-10	-10	5/8	7/8-18	3.28	1.99	2.06	.18	1 1/8	3/4	7/8

25K20
Male Swivel Tube O-Ring
90° Elbow - Short Pilot



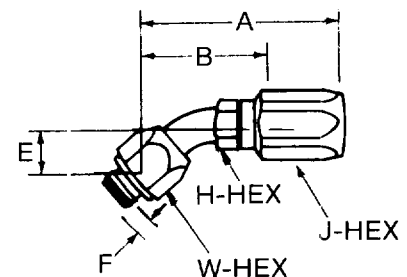
Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	F	J Hex	H Hex	W Hex
		Size	Thread							
25L20-6-6	-6	3/8	5/8-18	2.47	1.57	1.17	.28	13/16	1/2	3/4
25L20-8-8	-8	1/2	3/4-16	2.88	1.73	1.24	.38	15/16	5/8	7/8
25L20-10-10	-10	5/8	7/8-14	3.28	1.99	1.50	.38	1 1/8	3/4	1 1/16
25L20-12-10	-10	3/4	1 1/16-14	3.69	2.40	1.99	.38	1 1/8	7/8	1 1/4
25L20-10-12	-12	5/8	7/8-14	3.58	2.01	1.50	.38	1 1/4	7/8	1 1/16
25L20-12-12	-12	3/4	1 1/16-14	3.99	2.42	1.99	.38	1 1/4	7/8	1 1/4

25L20
Female Swivel - Tube O-Ring
90° Elbow - Long Pilot



Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	F	J Hex	H Hex	W Hex
		Size	Thread							
25N20-6-6	-6	3/8	5/8-18	3.07	2.17	.90	.28	13/16	1/2	3/4
25N20-8-8	-8	1/2	3/4-16	3.48	2.33	.97	.38	15/16	5/8	7/8
25N20-10-10	-10	5/8	7/8-14	4.01	2.72	1.17	.38	1 1/8	3/4	1 1/16
25N20-10-12	-12	5/8	7/8-14	4.31	2.74	1.17	.38	1 1/4	7/8	1 1/16
25N20-12-12	-12	3/4	1 1/16-14	4.84	3.27	1.58	.38	1 1/4	7/8	1 1/4

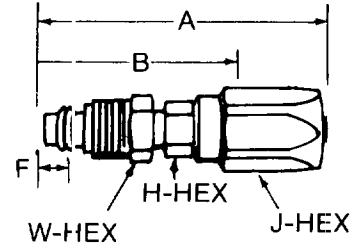
25N20
Female Swivel - Tube O-Ring
45° Elbow - Long Pilot



20 Series Tube O-Ring Air Conditioning and Refrigeration Fittings

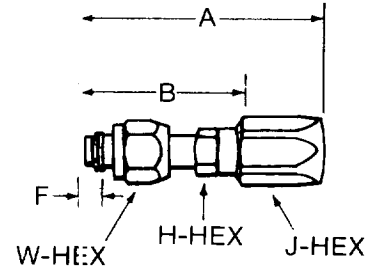
Part No.	Hose Size	Tube		A	B Cut-off Allow.	F	J Hex	H Hex	W Hex
		Size	Thread						
2S520-6-6	-6	3/8	5/8-18	2.85	1.95	.18	13/16	1/2	5/8
2S520-8-8	-8	1/2	3/4-18	3.25	2.10	.18	15/16	5/8	3/4
2S520-10-10	-10	5/8	7/8-18	3.67	2.38	.18	1 1/8	3/4	7/8

2S520
Male Swivel Tube O-Ring
Straight Short Pilot



Part No.	Hose Size	Tube		A	B Cut-off Allow.	F	J Hex	H Hex	W Hex
		Size	Thread						
25920-6-6	-6	3/8	5/8-18	2.46	1.56	.28	13/16	1/2	3/4
25920-8-8	-8	1/2	3/4-16	2.89	1.74	.38	15/16	5/8	7/8
25920-10-10	-10	5/8	7/8-14	3.17	1.88	.38	1 1/8	3/4	1 1/16
25920-10-12	-12	5/8	7/8-14	3.47	1.90	.38	1 1/4	7/8	1 1/16
25920-12-12	-12	3/4	1 1/16-14	3.44	1.87	.38	1 1/4	7/8	1 1/4

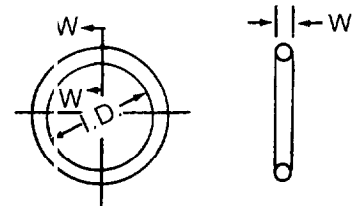
25920
Female Swivel - Tube O-Ring
Straight - Long Pilot



Part No.	Tube		W	I.D.
	Size	Thread		
771513-1	3/8	5/8-18	.070±.003	.301±.005
771513-2	1/2	3/4-16	.070±.003	.426±.005
771513-3	5/8	7/8-14	.070±.003	.551±.005
771513-4	3/4	1 1/16-14	.070±.003	.676±.005

O-RINGS

For Tube O-Ring Air Conditioning and Refrigeration Fittings. (Compound N674-70)*



*For use with Freon and Petroleum Base Fluids.

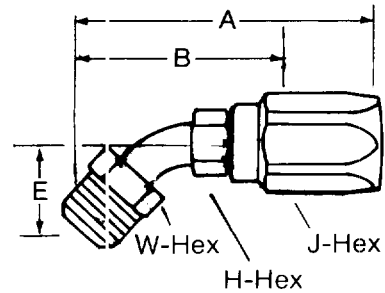
20 Series

20 Series Fittings used with 201, 204, 221, 231, 235, 241, 261, SS25, SS25UL, 2LPG Hose

26720

SAE Male Inverted Swivel 45° Elbow

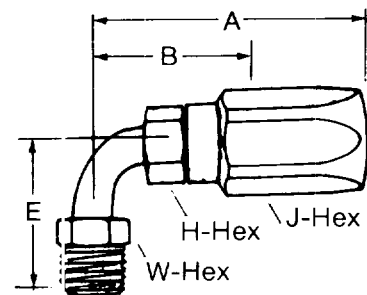
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
26720-4-4	-4	1/4	7/16-24	2.13	1.38	.62	3/8	5/8	7/16
26720-6-6	-6	3/8	5/8-18	2.99	2.09	.94	1/2	13/16	5/8
26720-8-8	-8	1/2	3/4-18	3.48	2.32	1.09	5/8	15/16	3/4



26920

SAE Male Inverted Swivel 90° Elbow

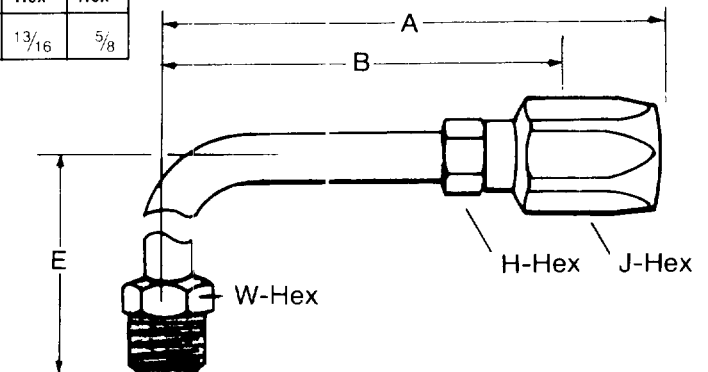
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
26920-4-4	-4	1/4	7/16-24	1.97	1.47	1.56	3/8	5/8	7/16
26920-5-5	-5	5/16	1/2-20	2.53	1.75	1.65	7/16	1 1/16	1/2
26920-6-6	-6	3/8	5/8-18	2.63	1.73	1.69	1/2	13/16	5/8



27120

SAE Male Inverted Swivel 90° Elbow (Long)

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
27120-6-6	-6	3/8	5/8-18	3.67	2.77	2.69	1/2	13/16	5/8

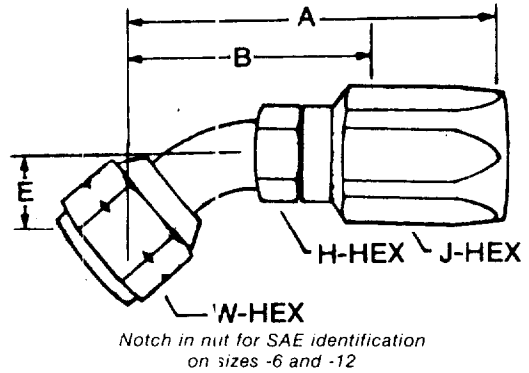


2 D 3 4 0 2 7

20 Series Fittings used with 201, 204, 221, 231, 235, 241, 261, SS25, SS25UL, 2LPG Hose

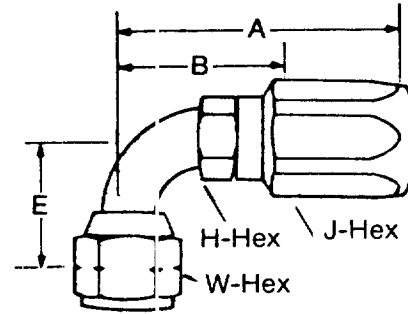
27720 SAE 45° Swivel 45° Elbow

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
27720-4-4	-4	1/4	7/16-20	1.85	1.10	.33	3/8	5/8	9/16
27720-5-5	-5	5/16	1/2-20	2.07	1.29	.36	7/16	11/16	5/8
27720-6-6	-6	3/8	5/8-18	2.23	1.33	.40	1/2	13/16	13/16
27720-8-8	-8	1/2	3/4-16	2.99	1.84	.55	5/8	15/16	7/8
27720-10-10	-10	5/8	7/8-14	3.24	1.95	.64	3/4	1 1/8	1
27720-12-12	-12	3/4	1 1/16-14	3.78	2.21	.78	7/8	1 1/4	1 1/4



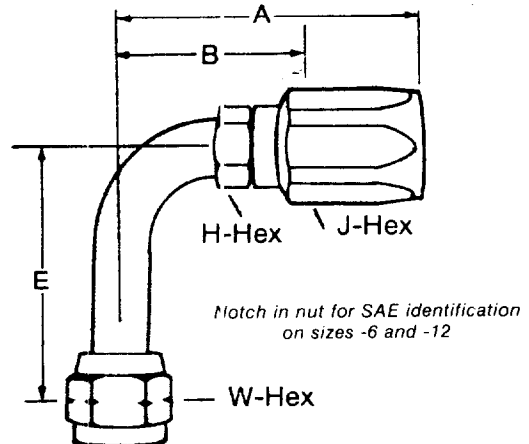
27920 SAE 45° Swivel 90° Elbow

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
27920-4-4	-4	1/4	7/16-20	1.74	.99	.68	3/8	5/8	9/16
27920-5-5	-5	5/16	1/2-20	1.96	1.18	.77	7/16	11/16	5/8
27920-6-6	-6	3/8	5/8-18	2.13	1.23	.85	1/2	13/16	13/16
27920-8-8	-8	1/2	3/4-16	2.76	1.61	1.09	5/8	15/16	7/8
27920-10-10	-10	5/8	7/8-14	2.94	1.65	1.23	3/4	1 1/8	1
27920-12-12	-12	3/4	1 1/16-14	3.74	2.17	1.82	7/8	1 1/4	1 1/4



28120 SAE 45° Swivel 90° Elbow (Long)

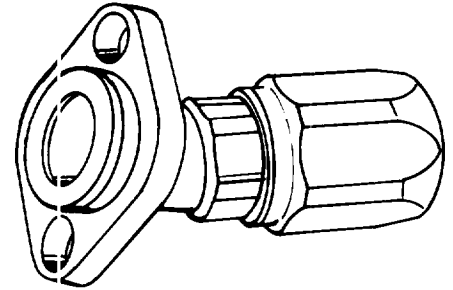
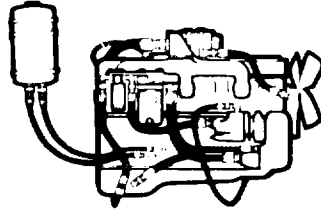
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
28120-4-4	-4	1/4	7/16-20	1.74	.99	1.80	3/8	5/8	9/16
28120-5-5	-5	5/16	1/2-20	1.96	1.18	1.77	7/16	11/16	5/8
28120-6-6	-6	3/8	5/8-18	2.13	1.23	2.18	1/2	13/16	13/16
28120-8-8	-8	1/2	3/4-16	2.88	1.74	2.43	5/8	15/16	7/8
28120-10-10	-10	5/8	7/8-14	3.19	1.90	2.57	3/4	1 1/8	1
28120-12-12	-12	3/4	1 1/16-14	3.74	2.17	3.73	7/8	1 1/4	1 1/4



20 Series

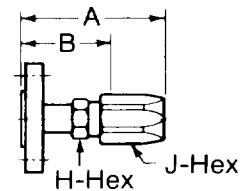
20 Series Fittings used with 201, 261, SS25 Hose

20 Series Diesel Engine Hose Fittings



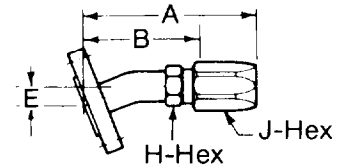
2MA20 Straight Two Bolt Flange

STEEL Part No.	Hose Size	Flange Size	A	B Cut-off Allow.	H Hex	J Hex
2MA20-16	-16	1	3.15	1.90	1 $\frac{1}{8}$	1 $\frac{7}{16}$



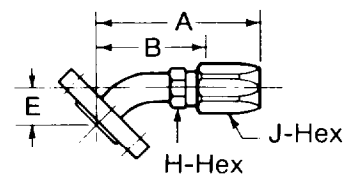
2MC20 22 $\frac{1}{2}$ ° Two Bolt Flange

STEEL Part No.	Hose Size	Flange Size	A	B Cut-off Allow.	E	H Hex	J Hex
2MC20-16	-16	1	3.76	2.50	.81	1 $\frac{1}{8}$	1 $\frac{7}{16}$



2ME20 45° Two Bolt Flange

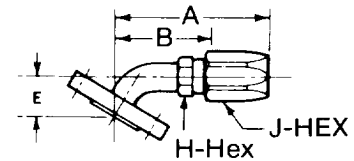
STEEL Part No.	Hose Size	Flange Size	A	B Cut-off Allow.	E	H Hex	J Hex
2ME20-16	-16	1	3.62	2.37	.95	1 $\frac{1}{8}$	1 $\frac{7}{16}$



20 Series Fittings used with 201, 261, SS25 Hose

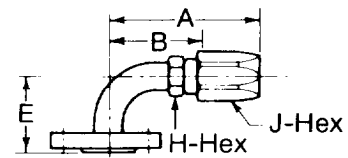
2MG20
60° Two Bolt Flange

STEEL Part No.	Hose Size	Flange Size	A	B Cut-off Allow.	E	H Hex	J Hex
2MG20-16	-16	1	3.73	2.49	1.42	1 1/8	1 7/16



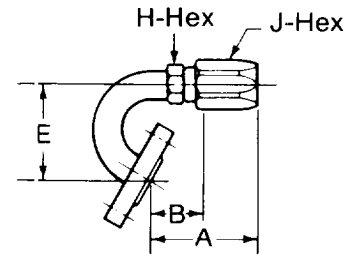
2MJ20
90° Two Bolt Flange

STEEL Part No.	Hose Size	Flange Size	A	B Cut-off Allow.	E	H Hex	J Hex
2MJ20-16	-16	1	3.55	2.30	2.12	1 1/8	1 7/16

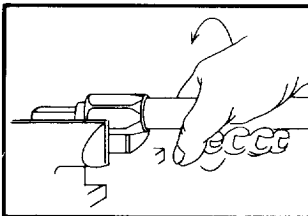


2MN20
165° Two Bolt Flange

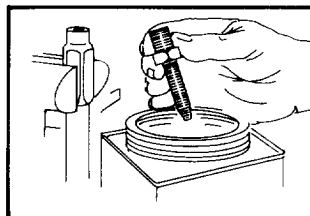
STEEL Part No.	Hose Size	Flange Size	A	B Cut-off Allow.	E	H Hex	J Hex
2MN20-16	-16	1	1.89	.63	3.11	1 1/8	1 7/16



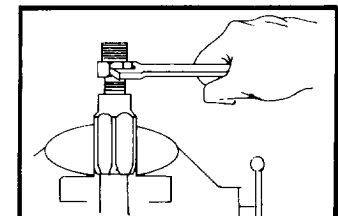
Assembly Instructions — 20 Series Fittings



Place socket in vise. Thread hose counterclockwise into socket until hose bottoms. Back off 1/2 turn.



Oil nipple threads and inside of hose with Heavy Oil, (NSN 9150-00-186-6681).
Caution: Do not oil hose cover.



Thread nipple clockwise into socket until nipple hex shoulders against socket.

22 Series

22 Series Fittings used with 201, 204, 221, 231, 235, 241, 261, SS25, SS25UL, 2LPG Hose

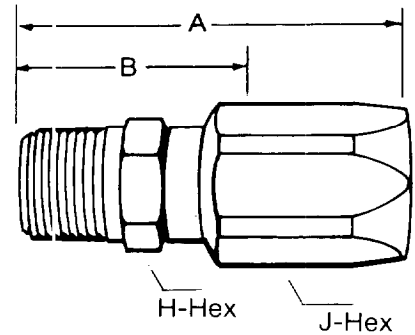
Mandrel Assembly Fittings

Fittings -12 and smaller require use of mandrels for assembly to hose. Sizes -16 through -32 require use of assembly tool.
Mandrels and assembly tools listed on page A-140.

BRASS Part No.	STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	J Hex
20122-2-4B	20122-2-4	-4	1/8-27	1.68	.92	7/16	5/8
20122-4-4B	20122-4-4	-4	1/4-18	1.86	1.11	9/16	5/8
20122-2-5B	20122-2-5	-5	1/8-27	1.78	1.00	1/2	11/16
20122-4-5B	20122-4-5	-5	1/4-18	1.96	1.18	9/16	11/16
20122-4-6B	20122-4-6	-6	1/4-18	2.13	1.23	9/16	13/16
20122-6-8B	20122-6-8	-8	3/8-18	2.48	1.33	3/4	15/16
—	20122-8-8	-8	1/2-14	2.73	1.58	7/8	15/16
20122-8-10B	20122-8-10	-10	1/2-14	2.88	1.59	7/8	1 1/8
20122-12-12B	20122-12-12	-12	3/4-14	3.24	1.67	1 1/16	1 1/4
20120-12-16B*	20120-12-16	-16	3/4-14	2.80	1.53	1 3/8	1 7/16
20120-16-16B*	20120-16-16	-16	1 -11 1/2	2.99	1.72	1 3/8	1 7/16
20120-20-20B*	20120-20-20	-20	1 1/4-11 1/2	3.23	1.87	1 3/4	1 3/4
20120-24-24B*	20120-24-24	-24	1 1/2-11 1/2	3.48	2.03	2	2
20120-32-32B*	20120-32-32	-32	2 -11 1/2	4.05	2.20	2 1/2	2 1/2

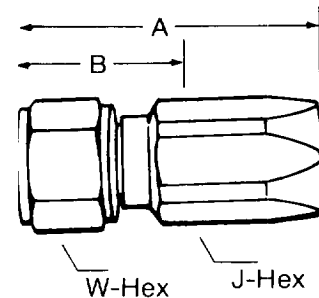
*NOTE: Fittings in Size -16 and up are NON Mandrel style fittings.

20122 Male Pipe



BRASS Part No.	STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	J Hex	W Hex
			Size	Thread				
20622-4-4B	20622-4-4	-4	1/4	7/16-20	1.75	1.00	5/8	9/16
20622-5-5B	20622-5-5	-5	5/16	1/2-20	1.90	1.12	11/16	5/8
20622-6-6B	20622-6-6	-6	3/8	9/16-18	2.05	1.15	13/16	11/16
20622-8-8B	20622-8-8	-8	1/2	3/4-16	2.52	1.38	15/16	7/16
20622-10-10B	20622-10-10	-10	5/8	7/8-14	2.80	1.51	1 1/8	1
20622-12-12B	20622-12-12	-12	3/4	1 1/16-12	3.15	1.58	1 1/4	1 1/4
20622-16-16B	20622-16-16	-16	1	1 5/16-12	2.82	1.54	1 7/16	1 1/2
20622-20-20B	20622-20-20	-20	1 1/4	1 5/8-12	3.00	1.64	1 3/4	2
20622-24-24B	20622-24-24	-24	1 1/2	1 7/8-12	3.28	1.83	1 15/16	2 1/4
20622-32-32B	20622-32-32	-32	2	2 1/2-12	3.88	2.03	2 7/16	2 7/8
—	20622-40-40	-40	2 1/2	3 -12	4.16	2.25	3 3/8	3 3/8

20622 SAE (JIC) 37° Swivel



22 Series Fittings used with 201, 204, 221, 231, 235, 241, 261, SS25, SS25UL, 2LPG Hose

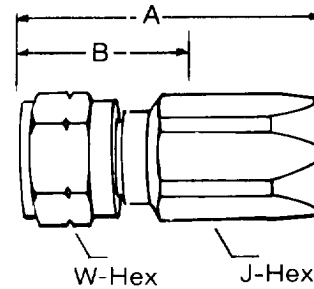
Mandrel Assembly Fittings

Fittings -12 and smaller require use of mandrels for assembly to hose. Sizes -16 through -32 require use of assembly tool. Mandrels and assembly tools listed on page 139.

BRASS Part No.	STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	J Hex	W Hex
			Size	Thread				
20822-4-4B	20822-4-4	-4	1/4	7/16-20	1.75	1.00	5/8	9/16
20822-5-5B	20822-5-5	-5	5/16	1/2-20	1.90	1.12	11/16	5/8
20822-6-6B	20822-6-6	-6	3/8	5/8-18	2.05	1.15	13/16	3/4
20822-8-8B	20822-8-8	-8	1/2	3/4-16	2.52	1.38	15/16	7/8
20822-10-10B	20822-10-10	-10	5/8	7/8-14	2.80	1.51	1 1/8	1
20822-12-12B	20822-12-12	-12	3/4	1 1/16-14	3.02	1.45	1 1/4	1 1/4

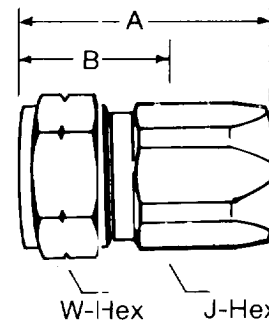
Notch in nut for SAE identification on sizes -6 and -12

**20822
SAE 45° Swivel**



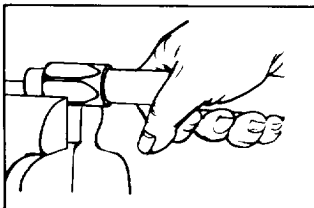
**23222
PTT 30° Swivel**

BRASS Part No.	STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	J Hex	W Hex
			Size	Thread				
23222-16-16B	23222-16-16	-16	1	1 5/16-14	2.60	1.32	1 7/16	1 1/2
23222-20-20B	23222-20-20	-20	1 1/4	1 5/8-14	2.86	1.50	1 3/4	1 15/16
23222-24-24B	23222-24-24	-24	1 1/2	1 7/8-14	3.14	1.76	1 15/16	2 1/4
23222-32-32B	23222-32-32	-32	2	2 1/2-12	3.91	2.11	2 7/16	2 7/8

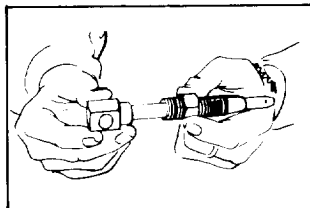


Assembly Instructions - 22 Series Mandrel Assembly Fittings

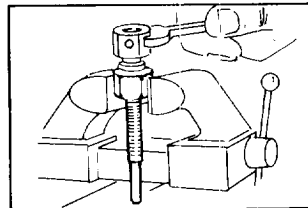
Do Not Attempt to Assemble These Fittings Without Using a Mandrel.



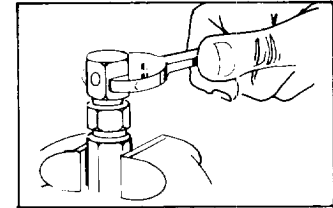
Place socket in vise shown. Thread hose counterclockwise into socket until hose bottoms. Back off 1/2 turn.



When assembling male pipe ends, slide nipple onto mandrel.



When assembling swivel ends, screw threaded mandrel all the way into interior threads of swivel, wrench tight.



Oil nipple threads and inside of hose with Heavy Oil, (NSN 9150-00-186-6681). Caution: Do not oil hose cover. Push nipple into socket. Male Ends: thread nipple in until it bottoms against socket. Swivel Ends: apply wrench to hex of assembly mandrel. Thread nipple clockwise into socket until clearance between nut and socket is approximately 1/32" to allow nut to swivel. Remove mandrel.

42 Series

Hose and Reusable Fittings Medium Pressure - No-Skive

Medium Pressure SAE 100RI Type T



421 HOSE
Single Wire Braid
No-Skive

No Skive

- Assembly of No-Skive hose and fittings does not require removal of outer cover of hose. Eliminates premature hose failure caused by skiving too long or short.
- Use of No-Skive hose and fittings keeps outer cover intact, protecting vulnerable wire braid during fitting assembly.
- Cushioned grip increases hose life — supporting cushion of compressed rubber between gripping threads on fitting reduces wire movement, minimizing stress.

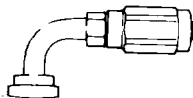
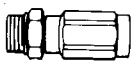
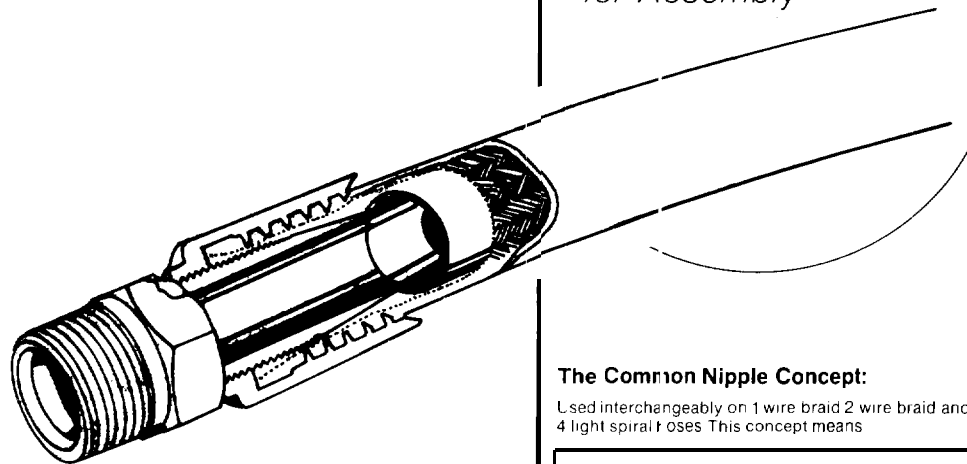
No-Skive Hose and Fittings

Reusable style fitting design permits quick, easy field assembly without special tools.

... *Just
Replace
The Hose!*

Hose Cover

*Need not be removed
for Assembly*



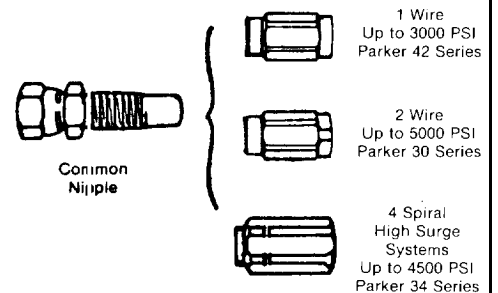
- Corrosion Protection - steel wire braid of No-Skive hose is never exposed because outer rubber cover is not removed before assembling fitting.
- No-Skive fittings are designed to allow socket threads to penetrate outer cover of hose and grip the wire braid of hose.
- Simple two step assembly - attach socket to hose, thread nipple into socket.

The Common Nipple Concept:

Used interchangeably on 1 wire braid 2 wire braid and 4 light spiral hoses This concept means

- Reduced Inventory
- Faster hose changes
- Less investment
- Complete system coverage

Common Nipple is Used With These Sockets:

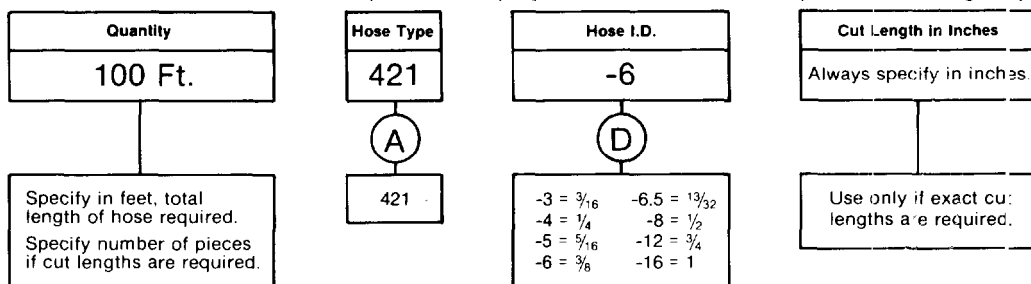


One Nipple Stock - Does It All!

How to Order Hose Only

When ordering hose, specify complete information as illustrated below.

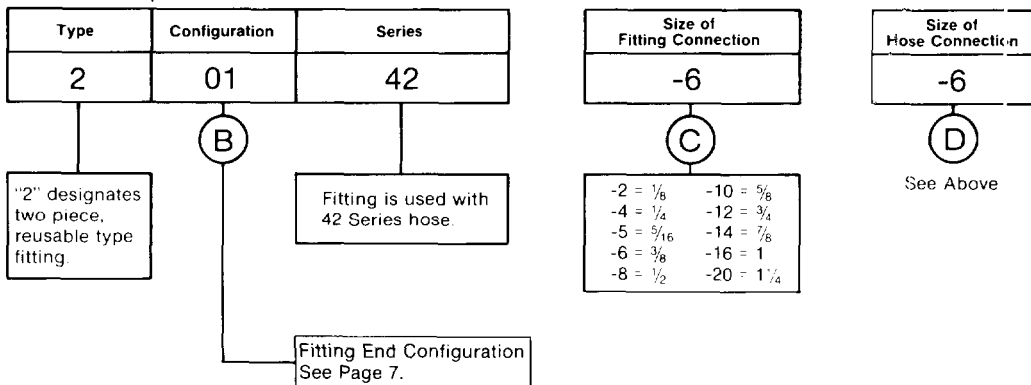
Examples: **100 Ft. 421-6 (bulk hose) 6 pcs. 421-6-120 inches (exact cut lengths)**



How to Order Fittings Only

Fittings are ordered by part number as listed in this catalog on pages A-47 - A-52.

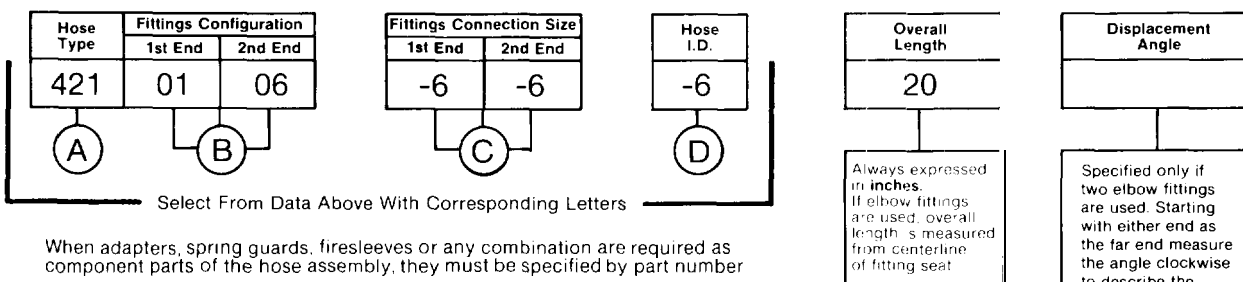
Example: **20142-6-6**



How to Order Hose Assemblies

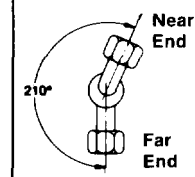
The following example illustrates how to order a hose assembly using 3/8" I.D. 421 hose, with 3/8" male pipe connection on one end, and 3/8" SAE (JIC) 37° Swivel connection on the other end. Overall length is 20".

Example: **4210106-6-6-6-20"**



Typical Basic Assembly Numbers

End Connection #1	End Connection #2	01 Male Pipe	03 Male SAE (JIC) 37°	05 SAE Str. Thr'd. O-Ring	06 SAE (JIC) 37° Swivel	08 SAE 45° Swivel
01 - Male Pipe		4210101	4210103	4210105	4210106	4210108
03 - Male JIC 37°		4210301	4210303	4210305	4210306	4210308
05 - SAE Str. Thr'd. O-Ring		4210501	4210503	4210505	4210506	4210508



42 Series

421 No-Skive Hose SAE 100R1 Type T

Hose cover does not have to be removed to attach No-Skive fittings.



Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
421-3	3/16	.47	3,000	12,000	3 1/2
421-4	1/4	.53	2,750	11,000	4
421-5	5/16	.59	2,500	10,000	4 1/2
421-6	3/8	.69	2,250	9,000	5
421-6.5	13/32	.72	2,250	9,000	5 1/2
421-8	1/2	.81	2,000	8,000	7
421-12	3/4	1.09	1,250	5,000	9 1/2
421-16	1	1.41	1,000	4,000	12

Construction: Synthetic rubber tube, single high tensile steel wire braid reinforcement; oil, weather and abrasion resistant synthetic rubber cover.

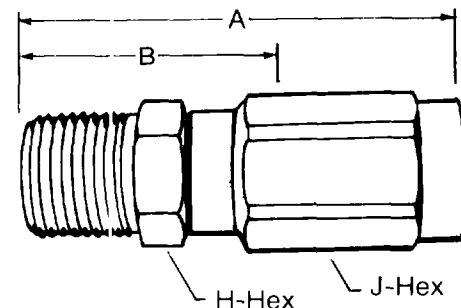
Applications: Medium pressure service with petroleum base hydraulic fluids, water-glycol and water-oil fire-resistant hydraulic fluids, hot oil, grease, lubricants, crude and fuel oils, gasoline, air, water. Passed U.S. Bureau of Mines Flame Test. (MSHA).

Temperature Range: -40°F to +200°F (-40°C to +93°C).

42 Series Fittings Used with 421 Hose

20142 Male Pipe

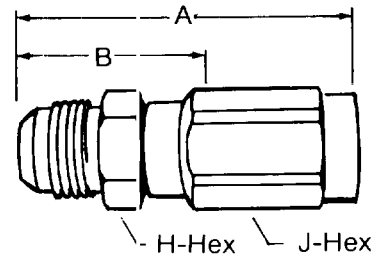
STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	J Hex
20142-2-3	-3	1/8-27	2.10	1.38	1/2	5/8
20142-4-3	-3	1/4-18	2.27	1.55	9/16	5/8
20142-2-4	-4	1/8-27	2.18	1.34	9/16	11/16
20142-4-4	-4	1/4-18	2.36	1.52	9/16	11/16
20142-6-4	-4	3/8-18	2.36	1.61	3/4	11/16
20142-4-5	-5	1/4-18	2.39	1.51	9/16	13/16
20142-4-6	-6	1/4-18	2.50	1.55	3/4	7/8
20142-6-6	-6	3/8-18	2.50	1.55	3/4	7/8
20142-8-6	-6	1/2-14	2.69	1.71	7/8	7/8
20142-6-6.5	-6.5	3/8-18	2.50	1.56	3/4	15/16
20142-8-6.5	-6.5	1/2-14	2.75	1.81	7/8	15/16
20142-6-8	-8	3/8-18	2.83	1.74	7/8	1
20142-8-8	-8	1/2-14	3.02	1.93	7/8	1
20142-12-8	-8	3/4-14	3.08	1.99	1 1/8	1
20142-12-12	-12	3/4-14	3.23	1.87	1 1/8	1 3/8
20142-12-16	-16	3/4-14	3.61	2.03	1 3/8	1 5/8
20142-16-16	-16	1 -1 1/2	3.80	2.22	1 3/8	1 5/8



42 Series Fittings used with 421 Hose

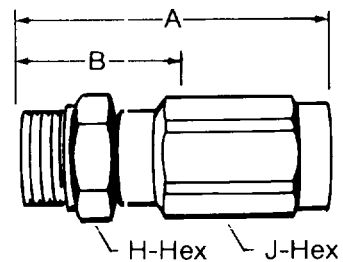
20342
Male SAE (JIC) 37°

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20342-4-3	-3	1/4	7/16-20	2.26	1.54	1/2	5/8
20342-4-4	-4	1/4	7/16-20	2.35	1.51	9/16	1 1/16
20342-5-4	-4	5/16	1/2-20	2.35	1.51	9/16	1 1/16
20342-6-4	-4	3/8	9/16-18	2.35	1.51	5/8	1 1/16
20342-5-5	-5	5/16	1/2-20	2.38	1.50	9/16	1 3/16
20342-6-5	-5	3/8	9/16-18	2.39	1.51	5/8	1 3/16
20342-6-6	-6	3/8	9/16-18	2.50	1.55	3/4	7/8
20342-8-6	-6	1/2	3/4-16	2.60	1.65	1 3/16	7/8
20342-8-8	-8	1/2	3/4-16	2.93	1.84	7/8	1
20342-10-8	-8	5/8	7/8-14	3.03	1.94	1 5/16	1
20342-12-12	-12	3/4	1 1/16-12	3.35	1.99	1 1/8	1 3/8
20342-14-12	-12	7/8	1 3/16-12	3.38	2.02	1 1/4	1 3/8
20342-16-16	-16	1	1 5/16-12	3.77	2.19	1 3/8	1 5/8



20542
SAE Straight Thread O-Ring

STEEL Part No.	Hose Size	SAE Thread Size	A	B Cut-off Allow.	H Hex	J Hex
20542-4-3	-3	7/16-20	2.12	1.37	9/16	5/8
20542-4-4	-4	7/16-20	2.20	1.36	9/16	1 1/16
20542-5-4	-4	1/2-20	2.20	1.36	5/8	1 1/16
20542-6-4	-4	9/16-18	2.23	1.39	1 1/16	1 1/16
20542-6-6	-6	9/16-18	2.37	1.42	1 1/16	1 3/16
20542-8-6	-6	3/4-16	2.45	1.50	7/8	7/8
20542-10-6	-6	7/8-14	2.57	1.62	1	7/8
20542-8-8	-8	3/4-16	2.78	1.69	7/8	1
20542-10-8	-8	7/8-14	2.84	1.75	1	1
20542-12-8	-8	1 1/16-12	3.00	1.91	1 1/4	1
20542-12-12	-12	1 1/16-12	3.22	2.03	1 1/4	1 1/8
20542-16-16	-16	1 5/16-12	3.56	1.98	1 1/2	1 5/8



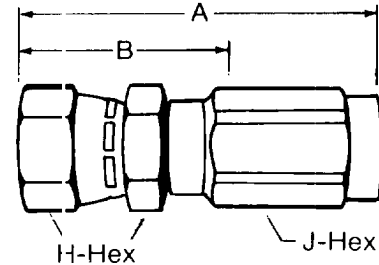
42 Series

Hose and Reusable Fittings
Medium Pressure - No-Skive

42 Series Fittings used with 421 Hose

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20642-4-3	-3	1/4	7/16-20	2.35	1.73	9/16	5/8
20642-4-4 *	-4	1/4	7/16-20	2.44	1.60	9/16	11/16
20642-5-4	-4	5/16	1/2-20	2.52	1.68	5/8	11/16
20642-6-4 *	-4	3/8	9/16-18	2.52	1.68	11/16	11/16
20642-5-5	-5	5/16	1/2-20	2.55	1.67	5/8	13/16
20642-6-5	-5	3/8	9/16-18	2.55	1.67	11/16	13/16
20642-6-6 *	-6	3/8	9/16-18	2.66	1.71	3/4	7/8
20642-8-6 *	-6	1/2	3/4-16	2.77	1.82	7/8	7/8
20642-8-6.5	-6.5	1/2	3/4-16	2.77	1.83	7/8	15/16
20642-8-8 *	-8	1/2	3/4-16	3.10	2.01	7/8	1
20642-10-8 *	-8	5/8	7/8-14	3.21	2.12	1	1
20642-12-8	-8	3/4	1 1/16-12	3.41	2.32	1 1/4	1
20642-10-12	-12	5/8	7/8-14	3.43	2.07	1 1/8	1 3/8
20642-12-12	-12	3/4	1 1/16-12	3.56	2.20	1 1/4	1 3/8
20642-14-12	-12	7/8	1 3/16-12	3.53	2.17	1 3/8	1 3/8
20642-16-12	-12	1	1 5/16-12	3.61	2.25	1 1/2	1 3/8
20642-16-16	-16	1	1 5/16-12	3.96	2.38	1 1/2	1 5/8
20642-20-16	-16	1 1/4	1 5/8-12	4.22	2.64	2	1 5/8

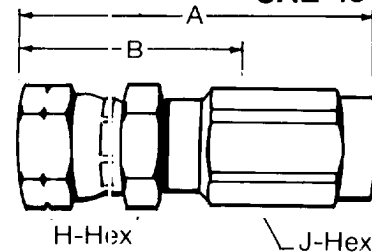
20642 SAE (JIC) 37° Swivel



*Available in 303 Stainless Steel. Add "C" to part number (Example: 20642-4-4-C).

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20842-4-3	-3	1/4	7/16-20	2.35	1.73	9/16	5/8
20842-4-4	-4	1/4	7/16-20	2.44	1.60	9/16	11/16
20842-5-4	-4	5/16	1/2-20	2.52	1.68	5/8	11/16
20842-6-6	-6	3/8	5/8-18	2.71	1.76	3/4	7/8
20842-8-6.5	-6.5	1/2	3/4-16	2.77	1.83	7/8	15/16
20842-10-8	-8	5/8	7/8-14	3.21	2.12	1	1

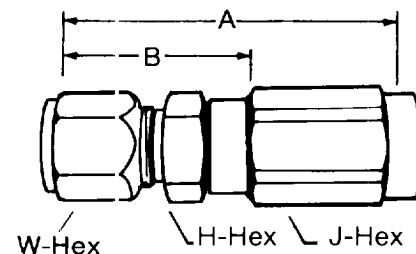
20842 SAE 45° Swivel



Notch in nut for SAE identification
Sizes -6 and -12 only

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H HEX	J Hex	W Hex
		Size	Thread					
21142-4-4	-4	1/4	7/16-20	2.23	1.39	9/16	11/16	9/16
21142-4-6	-6	1/4	7/16-20	2.37	1.42	3/4	7/8	9/16
21142-5-6	-6	5/16	1/2-20	2.37	1.42	3/4	7/8	5/8
21142-6-6	-6	3/8	9/16-18	2.39	1.44	3/4	7/8	11/16
21142-8-6	-6	1/2	3/4-16	2.50	1.55	13/16	7/8	7/8
21142-8-8	-8	1/2	3/4-16	2.81	1.72	7/8	1	7/8
21142-10-8	-8	5/8	7/8-14	2.87	1.78	15/16	1	1
21142-12-12	-12	3/4	1 1/16-12	3.16	1.80	1 1/8	1 3/8	1 1/4
21142-14-12	-12	7/8	1 3/16-12	3.16	1.80	1 1/4	1 3/8	1 3/8
21142-16-16	-16	1	1 5/16-12	3.54	1.96	1 3/8	1 5/8	1 1/2

21142 Ferrul-Fix (SAE Flareless)



The Ferrul-Fix fitting makes it possible to salvage the bent tube section from a hose assembly for quick, easy, on the job repairs.

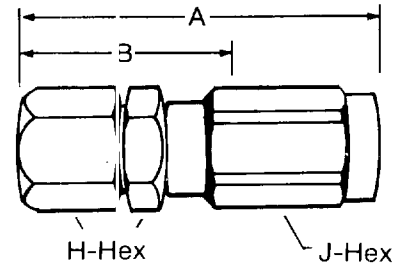
See Page A-104.
For Installation Instructions

42 Series Fittings used with 421 Hose

**21242
SAE Flareless Swivel**

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
21242-4-4	-4	1/4	7/16-20	2.44	1.60	9/16	1 1/16
21242-6-4	-4	3/8	9/16-18	2.52	1.68	1 1/16	1 1/16
21242-6-6	-6	3/8	9/16-18	2.66	1.71	1 1/16	7/8
21242-8-6	-6	1/2	3/4-16	2.77	1.82	7/8	7/8
21242-8-8	-8	1/2	3/4-16	3.10	2.01	7/8	1
21242-10-8	-8	5/8	7/8-14	3.21	2.12	1	1
21242-12-12	-12	3/4	1 1/16-12	3.56	2.20	1 1/4	1 3/8
21242-14-12	-12	7/8	1 3/16-12	3.53	2.17	1 3/8	1 3/8
21242-16-16	-16	1	1 5/16-12	3.96	2.38	1 1/2	1 5/8

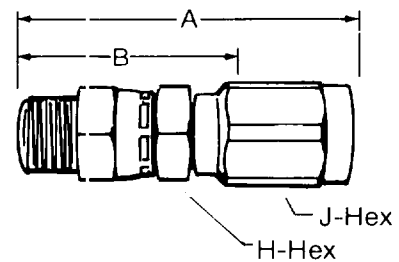
Connects with Ferulok tube fittings and other SAE J514 flareless tube fittings.



**21342
Male Pipe
O-Ring* Swivel**

STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	J Hex
21342-4-4	1/4	1/4-18	3.18	2.35	5/8	1 1/16
21342-6-6	3/8	3/8-18	3.41	2.46	3/4	7/8
21342-8-8	1/2	1/2-14	3.93	2.84	7/8	1
21342-12-12	3/4	3/4-14	4.25	2.89	1 1/4	1 3/8
21342-16-16	1	1 -11 1/2	4.92	3.34	1 1/2	1 5/8

The 21342 fitting allows minor movement under pressure to relieve stress on hose but is not recommended for continuous or extensive swiveling. For continuous swivel under pressure service see Hose Adapters Page A-108.

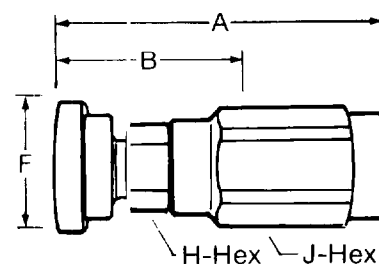


*For use with Petroleum Base Fluids

**21542
SAE Flange Head Straight**

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	F Flange Dia.	H Hex	J Hex
21542-8-8	-8	1/2	3.63	2.54	1 3/16	1 1/16	1
21542-12-8	-8	3/4	3.69	2.40	1 1/2	1 1/16	1
21542-12-12	-12	3/4	3.91	2.53	1 1/2	1 5/16	1 3/8
21542-16-12	-12	1	3.91	2.53	1 3/4	1 1/4	1 3/8
21542-20-12	-12	1 1/4	3.91	2.53	2	1 5/16	1 3/8
21542-16-16	-16	1	4.22	2.64	1 3/4	1 1/4	1 5/8
21542-20-16	-16	1 1/4	4.22	2.64	2	1 1/4	1 5/8

Flange kits listed on page A-114.



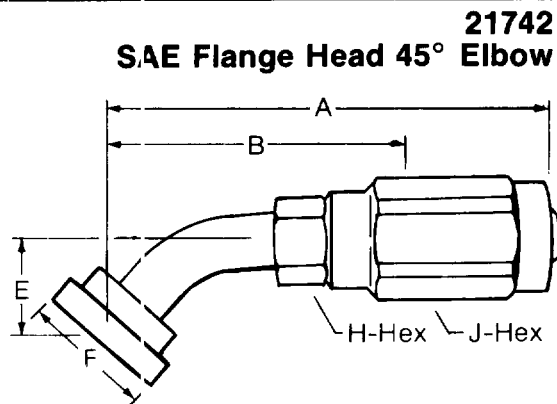
42 Series

Hose and Reusable Fittings
Medium Pressure - No-Skive

42 Series Fittings used with 421 Hose

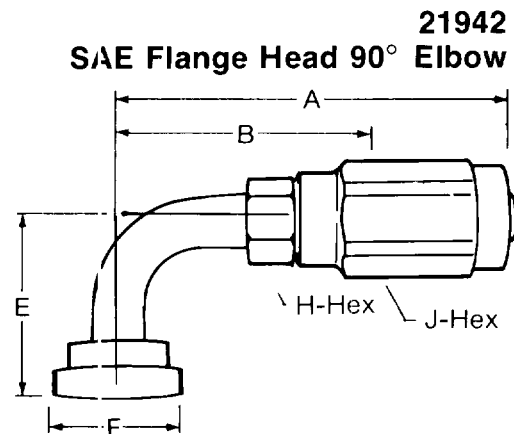
STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21742-12-8	-8	3/4	3.85	2.76	.78	1 1/2	1 1/16	1
21742-12-12	-12	3/4	4.04	2.68	1.00	1 1/2	1 5/16	1 3/8
21742-16-12	-12	1	4.04	2.68	1.00	1 3/4	1 5/16	1 3/8
21742-16-16	-16	1	4.63	3.05	1.12	1 3/4	1 1/4	1 5/8
21742-20-16	-16	1 1/4	4.63	3.05	1.12	2	1 1/4	1 5/8

Flange kits listed on page A-114.

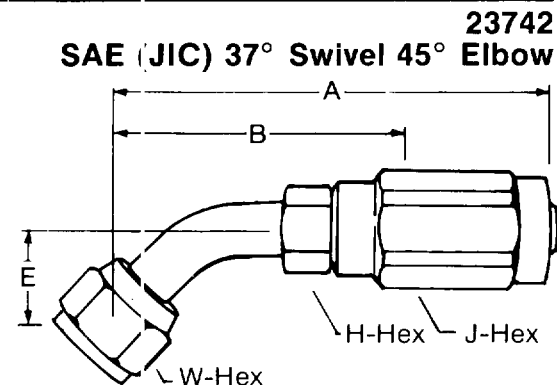


STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21942-8-8	-8	1/2	3.50	2.41	1.62	1 3/16	1 1/16	1
21942-12-8	-8	3/4	3.50	2.41	1.62	1 1/2	1 1/16	1
21942-12-12	-12	3/4	3.76	2.40	2.12	1 1/2	1 5/16	1 3/8
21942-16-12	-12	1	3.76	2.40	2.12	1 3/4	1 5/16	1 3/8
21942-20-12	-12	1 1/4	3.76	2.40	2.12	2	1 5/16	1 3/8
21942-16-16	-16	1	4.39	2.81	2.38	1 3/4	1 1/4	1 5/8
21942-20-16	-16	1 1/4	4.39	2.81	2.38	2	1 1/4	1 5/8

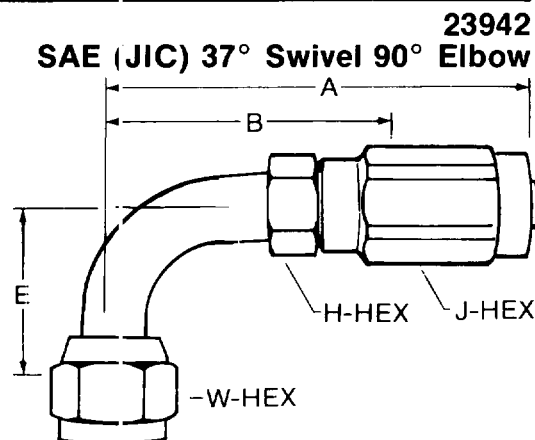
Flange kits listed on page A-114.



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23742-4-4	-4	1/4	7/16-20	2.43	1.59	.33	7/16	1 1/16	9/16
23742-6-6	-6	3/8	9/16-18	2.68	1.73	.40	9/16	7/8	1 1/16
23742-8-8	-8	1/2	3/4-16	3.30	2.21	.55	1 1/16	1	7/8
23742-10-8	-8	5/8	7/8-14	3.38	2.29	.64	1 3/16	1	1
23742-12-12	-12	3/4	1 1/16-12	3.87	2.51	.78	1 5/16	1 3/8	1 1/4
23742-16-16	-16	1	1 5/16-12	4.39	2.81	.89	1 1/4	1 5/8	1 1/2



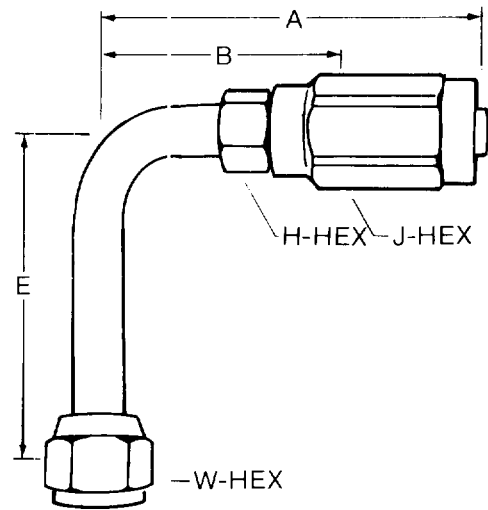
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23942-4-4	-4	1/4	7/16-20	2.32	1.48	.68	7/16	1 1/16	9/16
23942-6-6	-6	3/8	9/16-18	2.59	1.64	.85	9/16	7/8	1 1/16
23942-8-6	-6	1/2	3/4-16	2.79	1.84	1.09	1 1/16	7/8	7/8
23942-8-8	-8	1/2	3/4-16	3.06	1.97	1.09	1 1/16	1	7/8
23942-10-8	-8	5/8	7/8-14	3.11	2.02	1.23	1 3/16	1	1
23942-12-12	-12	3/4	1 1/16-12	3.76	2.40	1.82	1 5/16	1 3/8	1 1/4
23942-16-16	-16	1	1 5/16-12	4.38	2.80	2.14	1 1/4	1 5/8	1 1/2



42 Series Fittings used with 421 Hose

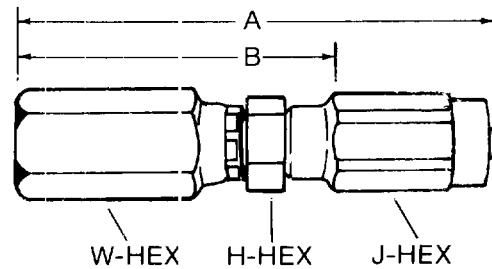
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
24142-4-4	-4	1/4	7/16-20	2.32	1.48	1.80	7/16	11/16	9/16
24142-6-6	-6	3/8	9/16-18	2.59	1.64	2.18	9/16	7/8	11/16
24142-8-8	-8	1/2	3/4-16	3.19	2.10	2.43	11/16	1	7/8
24142-10-8	-8	5/8	7/8-14	3.36	2.25	2.57	13/16	1	1
24142-12-12	-12	3/4	1 1/16-12	3.76	2.40	3.73	15/16	1 3/8	1 1/4
24142-16-16	-16	1	1 5/16-12	4.38	2.80	4.33	1 1/4	1 5/8	1 1/2

24142
SAE (JIC) 37° Swivel 90° Elbow (Long)



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	W Hex
		Size	Thread					
24842-6-4	-4	3/8	9/16-18	3.60	2.55	5/8	11/16	3/4
24842-8-6	-6	1/2	3/4-16	3.81	2.60	3/4	7/8	7/8
24842-10-8	-8	5/8	7/8-14	4.40	3.01	7/8	1	1
24842-14-12	-12	7/8	1 3/16-12	4.76	3.17	1 1/4	1 3/8	1 3/8
24842-16-16	-16	1	1 5/16-12	5.09	3.39	1 1/2	1 5/8	1 1/2

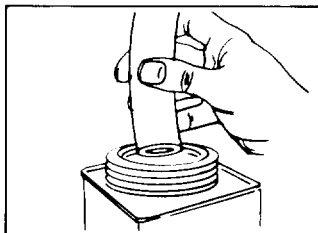
24842
Female SAE (JIC) 37° O-Ring* Swivel



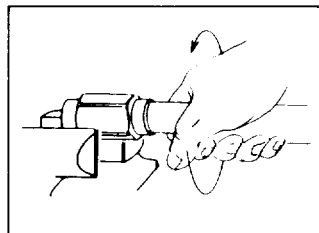
The 24842 fitting allows minor movement under pressure to relieve stress on hose but is not recommended for continuous or extensive swiveling. For continuous swivel under pressure service see **Hose Adapters Page A-108**.

*For use with Petroleum Base Fluids

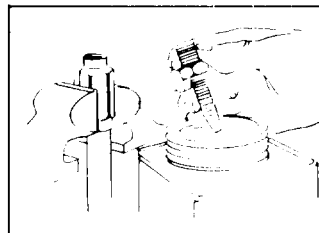
Assembly Instructions - 42 Series



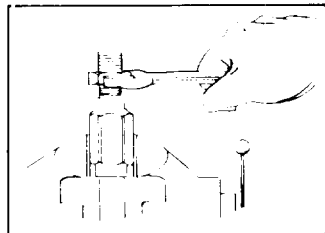
Dip hose into Heavy Oil, (NSN 9150-00-186-6681).



Place socket in vise as shown. Thread hose counter-clockwise into socket until hose bottoms. Back off 1/2 turn.



Dip hose end of nipple into Heavy Oil, (NSN 9150-00-186-6681) up to hex.



Thread nipple clockwise into socket until nipple hex shoulders against socket.

51 Series

Medium Pressure SAE 100R7



510 A HOSE
Black, Perforated Cover



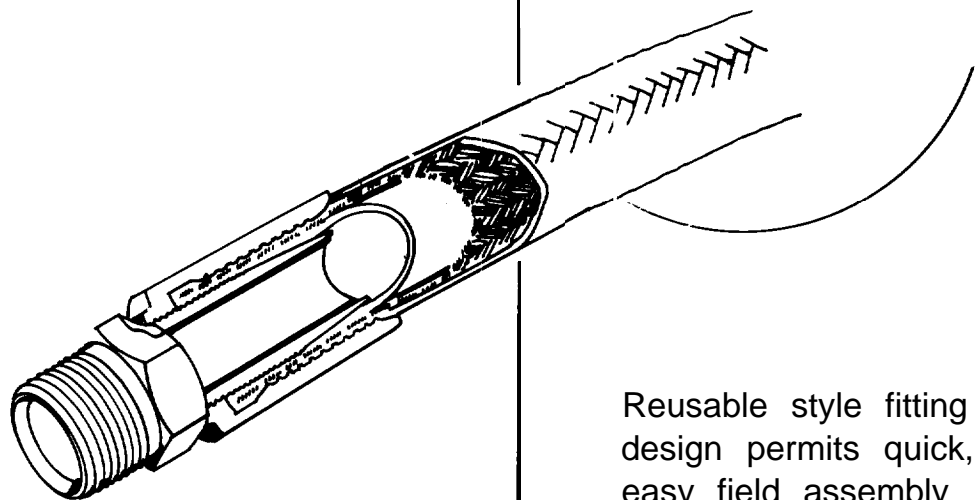
518 A HOSE
Non-Conductive,
Orange Cover

Hose and Fitting

- Bonded construction prevents collapsing of inner tube and wrinkling of cover which are associated with unbonded nylon hose construction.
- Extremely low effusion rate of refrigerants 12, 22 and 502. Superior to currently available synthetic rubber hoses.
- Excellent compatibility to all hydraulic fluids, including non-flammable phosphate ester based, water based and water-glycol hydraulic fluids.

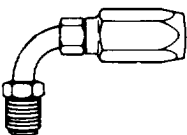
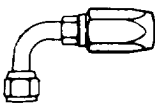
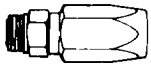
Hose Cover

*Need not be removed
for Assembly*



Reusable style fitting design permits quick, easy field assembly without special tools.

*... Just
Replace
The Hose!*

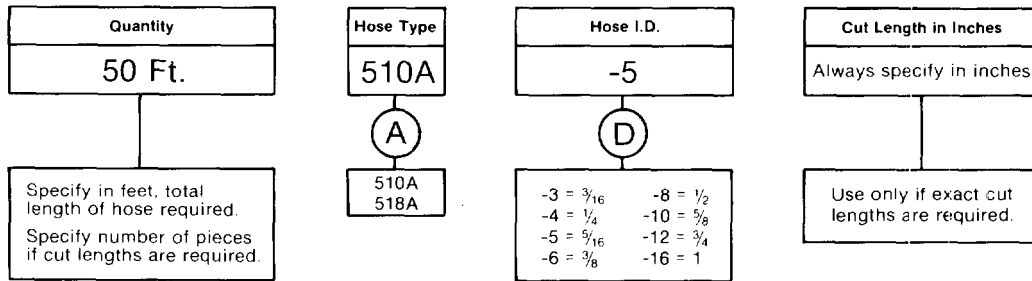


- Smooth interior surface of nylon inner tube offers freedom from dirt, scale, oxide build-up and swelling that commonly occurs in rubber hoses or metal tubing.
- Chemically resistant nylon construction is unaffected by gasoline, hydraulic fluids, oils, solvents, refrigerants, salt water.
- Lightweight and compact size permits easier installation where space is limited.
- 510 A hose is excellent for use with high pressure pneumatic or gas applications, such as carbon dioxide, helium, nitrogen.
- Fittings can be assembled with ordinary hand tools.

How to Order Hose Only

When ordering hose, specify complete information as illustrated below.

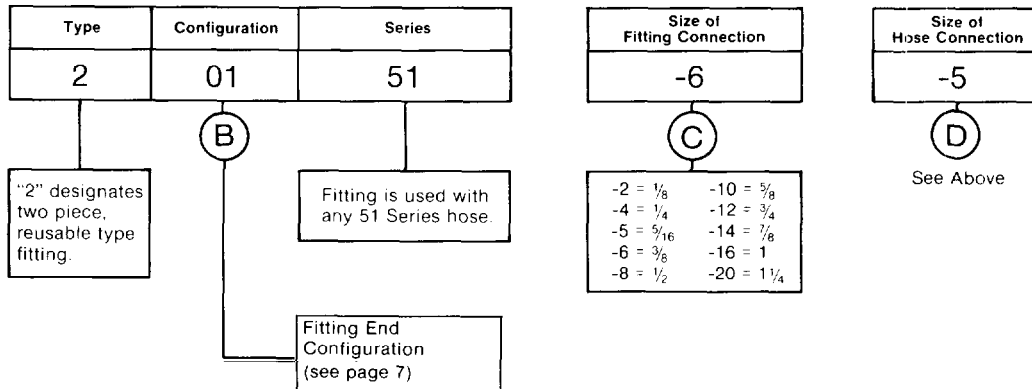
Examples: **50 Ft. 510A-5** (bulk hose) **6 pcs. 51 0A-5-120 inches** (exact cut lengths)



How to Order Fittings Only

Fittings are ordered by part number as listed in this catalog on pages A-55 - A-56.

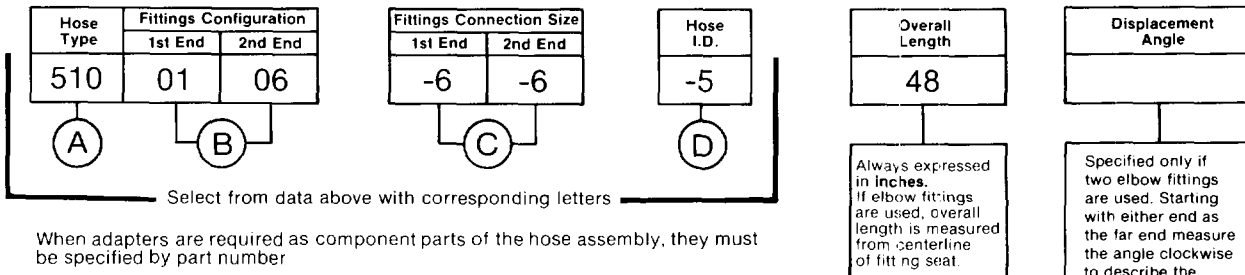
Example: **20151-6-5**



How to Order Hose Assemblies

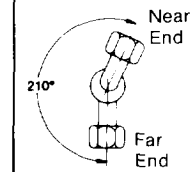
The following example illustrates how to order a hose assembly using 5/16" I.D. 510A hose, with 3/8" male pipe connection on one end, and 3/8" SAE (JIC) 37° Swivel connection on the other end. Overall length is 48".

Example: **5100106-6-6-5-48"**



Typical Basic Assembly Numbers

End Connection #1	End Connection #2	01 Male Pipe	03 Male SAE (JIC) 37°	04 Male SAE 45°	05 SAE Str. Thr'd. O-Ring	06 SAE (JIC) 37° Swivel
01 - Male Pipe		5100101	5100103	5100104	5100105	5100106
03 - Male SAE (JIC) 37°		5100301	5100303	5100304	5100305	5100306
04 - Male SAE 45°		5100401	5100403	5100404	5100405	5100406



51 Series

510A	Orange 518A Non-Conductive	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius
510A-3	518A-3	3/16	.42	3,000	12,000	2
510A-4	518A-4	1/4	.45	2,750	11,000	2 1/2
510A-5	518A-5	5/16	.56	2,500	10,000	3
510A-6	518A-6	3/8	.62	2,250	9,000	4
510A-8	518A-8	1/2	.80	2,000	8,000	5 1/2
510A-12	518A-12	3/4	1.07	1,250	5,000	7 1/2
510A-16	518A-16	1	1.35	1,000	4,000	10

510A/518A Hose SAE 100R7



Construction: Nylon 510A/518A is specially built thermoplastic bonded hose. Its seamless extruded nylon inner tube, the reinforced layer of nylon braid and synthetic cover are bonded into a single unit.

Applications: Medium pressure service with petroleum, water base and synthetic hydraulic fluids; 510A has a perforated cover for pneumatic and gas service and refrigerants 12, 22 and 502. Not for hot water or detergent service.

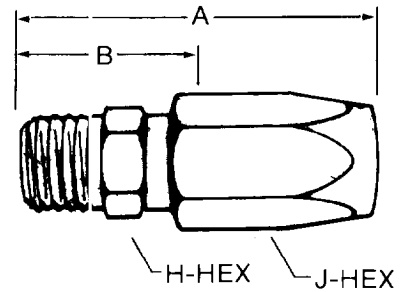
Temperature Range: -40°F to +200°F (-40°C to +93°C) For water based fluids, +145°F (+63°C) is the recommended max.

Non-Conductive Hose: Type 518A orange non-perforated cover which meets SAE-100R7 specifications for electrical non-conductivity. Maximum leakage is 50 micro amperes per foot free length at 75,000 volts per foot for five (5) minutes.

51 Series Fittings used with 510A, 518A Hose

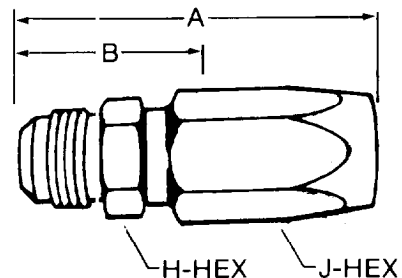
STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	J Hex
20151-2-3	-3	1/8-27	1.71	.98	7/8	5/8
20151-4-3	-3	1/4-18	1.90	1.16	9/16	5/8
20151-2-4	-4	1/8-27	1.90	.99	1/2	5/8
20151-4-4	-4	1/4-18	2.08	1.17	9/16	5/8
20151-4-5	-5	1/4-18	2.17	1.32	9/16	3/4
20151-6-5	-5	3/8-18	2.17	1.32	3/4	3/4
20151-4-6	-6	1/4-18	2.61	1.35	3/4	7/8
20151-6-6	-6	3/8-18	2.61	1.35	3/4	7/8
20151-8-6	-6	1/2-14	2.80	1.54	7/8	7/8
20151-6-8	-8	3/8-18	2.99	1.52	7/8	1 1/16
20151-8-8	-8	1/2-14	3.17	1.70	7/8	1 1/16
20151-12-8	-8	3/4-14	3.23	1.76	1 1/8	1 1/16
20151-12-12	-12	3/4-14	3.42	1.74	1 1/8	1 3/8
20151-12-16	-16	3/4-14	3.55	2.13	1 3/8	1 11/16
20151-16-16	-16	1 -11 1/2	3.74	2.22	1 3/8	1 11/16

20151 Male Pipe



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20351-4-3	-3	1/4	7/16-20	1.88	1.14	1/2	5/8
20351-5-4	-4	5/16	1/2-20	2.06	1.15	9/16	5/8
20351-6-5	-5	3/8	9/16-18	2.16	1.30	5/8	3/4
20351-6-6	-6	3/8	9/16-18	2.61	1.34	3/4	7/8
20351-8-6	-6	1/2	3/4-16	2.71	1.45	13/16	7/8
20351-8-8	-8	1/2	3/4-16	3.08	1.61	7/8	7/8
20351-10-8	-8	5/8	7/8-14	3.18	1.71	15/16	1 1/16
20351-12-12	-12	3/4	1 1/16-12	3.54	1.65	1 1/8	1 3/8
20351-14-12	-12	7/8	1 3/16-12	3.57	1.88	1 1/4	1 3/8
20351-16-16	-16	1	1 5/16-12	3.71	2.19	1 3/8	1 11/16

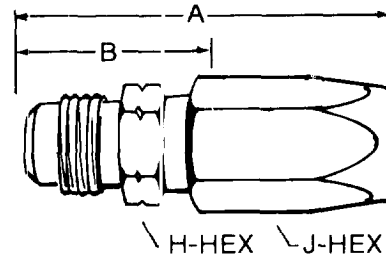
20351 Male SAE (JIC) 37°



51 Series Fittings used with 510A, 518A Hose

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20451-4-3	-3	1/4	7/16-20	1.83	.95	1/2	5/8
20451-5-4	-4	5/16	1/2-20	2.08	.96	9/16	5/8
20451-6-5	-5	3/8	5/8-18	2.23	1.13	11/16	3/4

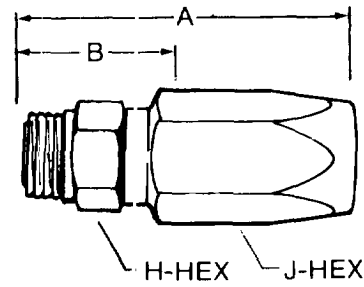
20451
Male SAE 45°



Notch in Hex for SAE Identification.
Size -6 only.

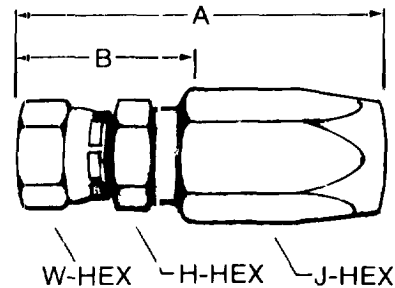
STEEL Part No.	Hose Size	SAE Thread Size	A	B Cut-off Allow.	H Hex	J Hex
20551-4-3	-3	7/16-20	1.69	.96	9/16	5/8
20551-5-4	-4	1/2-20	1.87	.96	5/8	5/8
20551-6-5	-5	9/16-18	1.99	1.13	11/16	3/4
20551-6-6	-6	9/16-18	2.48	1.22	11/16	7/8
20551-8-6	-6	3/4-16	2.56	1.29	7/8	7/8
20551-10-6	-6	7/8-14	2.68	1.42	1	7/8
20551-8-8	-8	3/4-16	2.93	1.45	7/8	1 1/16
20551-10-8	-8	7/8-14	2.99	1.52	1	1 1/16
20551-12-8	-8	1 1/16-12	3.15	1.68	1 1/4	1 1/16
20551-12-12	-12	1 1/16-12	3.35	1.66	1 1/4	1 3/8
20551-16-16	-16	1 5/16-12	3.50	1.98	1 1/2	1 11/16

20551
SAE Straight Thread O-Ring



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	W Hex
		Size	Thread					
20651-4-3	-3	1/4	7/16-20	1.99	1.26	9/16	5/8	9/16
20651-4-4	-4	1/4	7/16-20	2.18	1.27	9/16	5/8	5/8
20651-5-4	-4	5/16	1/2-20	2.24	1.33	5/8	5/8	5/8
20651-6-4	-4	3/8	9/16-18	2.34	1.43	11/16	5/8	5/8
20651-6-5	-5	3/8	9/16-18	2.37	1.51	11/16	3/4	11/16
20651-6-6	-6	3/8	9/16-18	2.77	1.51	3/4	7/8	11/16
20651-8-6	-6	1/2	3/4-16	2.88	1.62	7/8	7/8	1 1/16
20651-8-8	-8	1/2	3/4-16	3.25	1.78	7/8	1 1/16	7/8
20651-10-8	-8	5/8	7/8-14	3.37	1.89	1	1 1/16	7/8
20651-12-8	-8	3/4	1 1/16-12	3.56	2.09	1 1/8	1 1/16	7/8
20651-10-12	-12	5/8	7/8-14	3.62	1.94	1 1/8	1 3/8	1 1/4
20651-12-12	-12	3/4	1 1/16-12	3.75	2.08	1 1/4	1 3/8	1 1/4
20651-14-12	-12	7/8	1 3/16-12	3.72	2.04	1 3/8	1 3/8	1 1/4
20651-16-12	-12	1	1 5/16-12	3.80	2.12	1 1/2	1 3/8	1 1/4
20651-16-16	-16	1	1 5/16-12	3.93	2.41	1 1/2	1 11/16	1 1/2
20651-20-16	-16	1 1/4	1 5/8-12	4.16	2.64	1 3/4	1 11/16	1 1/2

20651
SAE (JIC) 37° Swivel



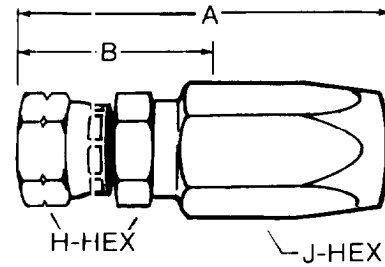
51 Series

51 Series Fittings used with 510A, 518A Hose

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20851-4-3	-3	1/4	7/16-20	2.00	1.26	9/16	5/8
20851-5-4	-4	5/16	1/2-20	2.23	1.33	5/8	5/8
20851-6-5	-5	3/8	5/8-18	2.40	1.55	11/16	3/4
20851-6-6	-6	3/8	5/8-18	2.82	1.55	3/4	7/8
20851-10-8	-8	5/8	7/8-14	3.36	1.89	1	1 1/16

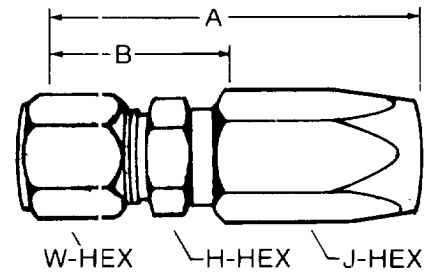
Notch in Nut for SAE Identification.
Size -6 only.

20851 SAE 45° Swivel



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	W Hex
		Size	Thread					
21151-4-3	-3	1/4	7/16-20	1.84	1.09	1/2	5/8	9/16
21151-5-4	-4	5/16	1/2-20	2.01	1.10	9/16	5/8	5/8
21151-4-5	-5	1/4	7/16-20	2.07	1.21	9/16	3/4	9/16
21151-6-5	-5	3/8	9/16-18	2.50	1.23	5/8	7/8	1 1/16
21151-6-6	-6	3/8	9/16-18	2.50	1.24	3/4	7/8	1 1/16
21151-8-6	-6	1/2	3/4-16	2.59	1.33	13/16	7/8	7/8
21151-8-8	-8	1/2	3/4-16	2.96	1.49	7/8	1 1/16	7/8
21151-10-8	-8	5/8	7/8-14	3.02	1.55	15/16	1 1/16	1
21151-12-12	-12	3/4	1 1/16-12	3.35	1.67	1 1/8	1 3/8	1 1/4
21151-14-12	-12	7/8	1 3/16-12	3.35	1.67	1 1/4	1 3/8	1 3/8
21151-16-16	-16	1	1 5/16-12	3.48	1.96	1 3/8	1 11/16	1 1/2

21151 Ferrul-Fix (SAE Flareless)

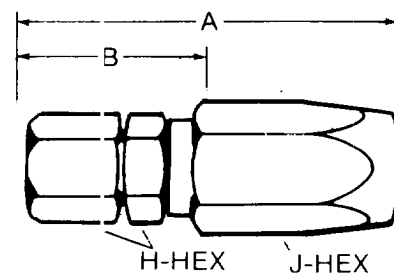


The Ferrul-Fix fitting makes it possible to salvage the bent tube section from a hose assembly for quick, easy, on the job repairs.

See page A-104
Installation Instructions

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
21251-6-6	-6	3/8	9/16-18	2.77	1.52	3/4	7/8
21251-8-6	-6	1/2	3/4-16	2.88	1.62	7/8	7/8
21251-8-8	-8	1/2	3/4-16	3.25	1.78	7/8	1 1/16
21251-10-8	-8	5/8	7/8-14	3.36	1.89	1	1 1/16
21251-12-12	-12	3/4	1 1/16-12	3.74	2.07	1 1/4	1 3/8
21251-14-12	-12	7/8	1 3/16-12	3.72	2.04	1 3/8	1 3/8
21251-16-16	-16	1	1 5/16-12	3.93	2.41	1 1/2	1 11/16

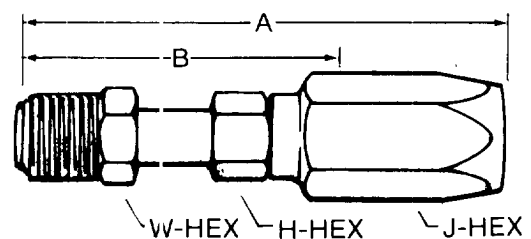
21251 SAE Flareless Swivel



Connects with Ferulok Tube Fittings and other SAE J514 Flareless tube fittings.

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	W Hex
		Size	Thread					
22851-4-3	-3	1/4	7/16-24	2.49	1.74	3/8	5/8	7/16
22851-5-4	-4	5/16	1/2-20	2.73	1.82	7/16	5/8	1/2
22851-6-5	-5	3/8	5/8-18	2.76	1.09	1/2	3/4	5/8

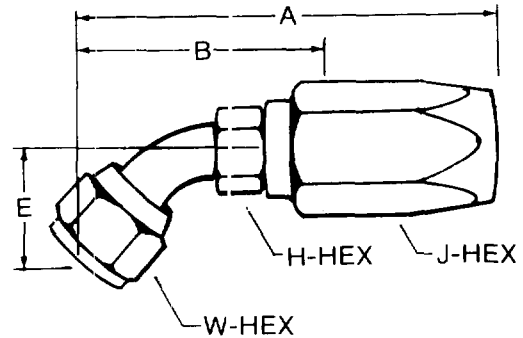
22851 SAE Male Inverted Swivel



51 Series Fittings used with 510A, 518A Hose

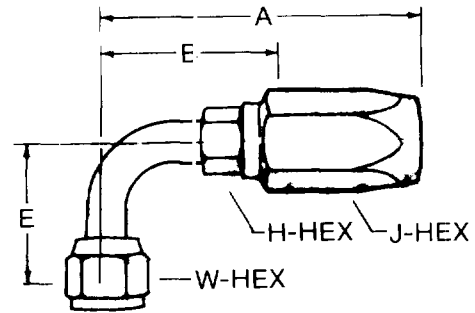
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23751-4-3	-3	1/4	7/16-20	1.88	1.13	.33	3/8	5/8	9/16
23751-5-4	-4	5/16	1/2-20	2.18	1.27	.36	7/16	5/8	5/8
23751-6-5	-5	3/8	9/16-18	2.27	1.41	.40	1/2	3/4	1 1/16
23751-6-6	-6	3/8	9/16-18	2.79	1.54	.40	9/16	7/8	1 1/16
23751-8-8	-8	1/2	3/4-16	3.42	1.98	.55	1 1/16	1 1/16	7/8
23751-10-8	-8	5/8	7/8-14	3.53	2.06	.64	1 3/16	1 1/16	1
23751-12-12	-12	3/4	1 1/16-12	4.03	2.35	.80	1 5/16	1 3/8	1 1/4
23751-16-16	-16	1	1 5/16-12	4.33	2.80	.89	1 1/4	1 11/16	1 1/2

23751
SAE (JIC) 37° Swivel 45° Elbow



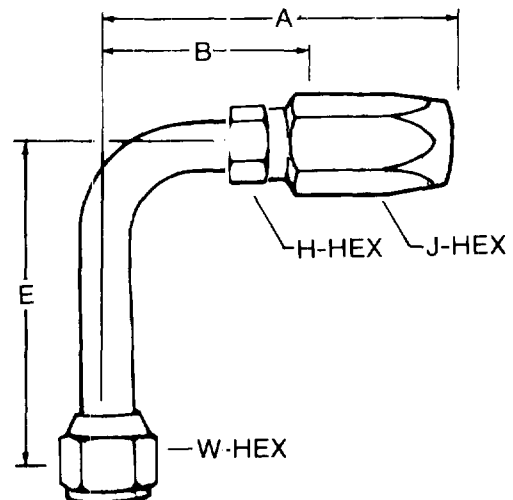
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23951-4-3	-3	1/4	7/16-20	1.77	1.02	.68	3/8	5/8	9/16
23951-5-4	-4	5/16	1/2-20	2.07	1.16	.77	7/16	5/8	1 1/16
23951-6-5	-5	3/8	9/16-18	2.17	1.31	.85	1/2	3/4	1 3/16
23951-6-6	-6	3/8	9/16-18	2.70	1.45	.85	9/16	7/8	1 1/16
23951-8-6	-6	1/2	3/4-16	2.90	1.65	1.09	1 1/16	7/8	7/8
23951-8-8	-8	1/2	3/4-16	3.21	1.74	1.09	1 1/16	1 1/16	1
23951-10-8	-8	5/8	7/8-14	3.26	1.79	1.23		1 1/16	1
23951-12-12	-12	3/4	1 1/16-12	3.95	2.27	1.82	1 5/16	1 3/8	1 1/4
23951-16-16	-16	1	1 5/16-12	4.32	2.80	2.19	1 1/4	1 11/16	1 1/2

23951
SAE (JIC) 37° Swivel 90° Elbow



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
24151-4-3	-3	1/4	7/16-20	1.77	1.02	1.80	3/8	5/8	9/16
24151-5-4	-4	5/16	1/2-20	2.07	1.16	1.77	7/16	5/8	5/8
24151-6-5	-5	3/8	9/16-18	2.17	1.31	2.18	1/2	3/4	1 1/16
24151-6-6	-6	3/8	9/16-18	2.70	1.45	2.18	9/16	7/8	1 1/16
24151-8-8	-8	1/2	3/4-16	3.21	1.74	2.43	1 1/16	1 1/16	7/8
24151-10-8	-8	5/8	7/8-14	3.26	1.79	2.57	1 3/16	1 1/16	7/8
24151-12-12	-12	3/4	1 1/16-12	3.95	2.27	3.73	1 5/16	1 3/8	1 1/4
24151-16-16	-16	1	1 5/16-12	4.32	2.80	4.33	1 1/4	1 11/16	1 1/2

24151
SAE (JIC) 37° Swivel 90° Elbow (Long)

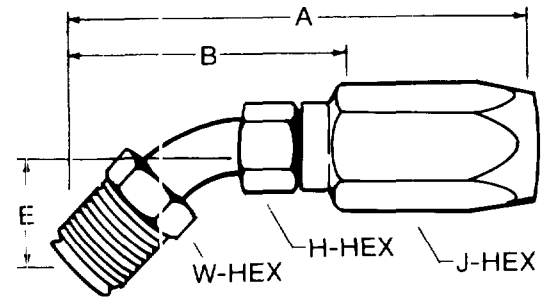


51 Series

51 Series Fittings used with 510A, 518A Hose

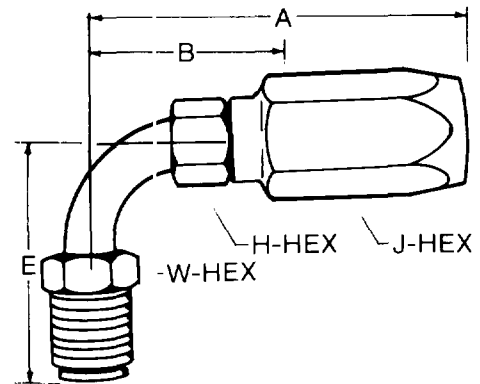
26751 SAE Male Inverted Swivel 45° Elbow

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
26751-6-5	-5	3/8	5/8-18	3.03	2.17	.94	1/2	3/4	5/8



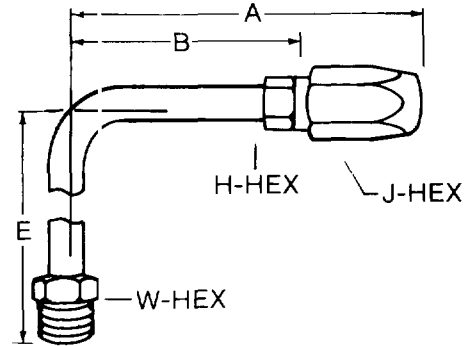
26951 SAE Male Inverted Swivel 90° Elbow

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
26951-5-4	-4	5/16	1/2-20	2.64	1.73	1.65	7/16	5/8	1/2
26951-6-5	-5	3/8	5/8-18	2.67	1.81	1.69	1/2	3/4	5/8



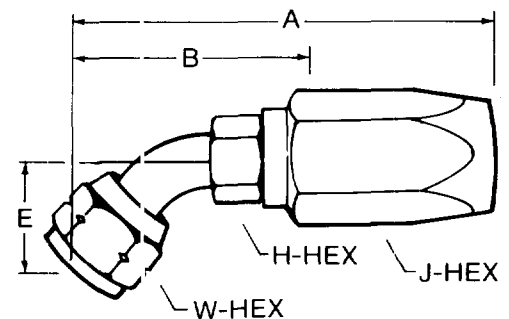
27151 SAE Male Inverted Swivel 90° Elbow (Long)

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
27151-6-5	-5	3/8	5/8-18	4.02	3.16	2.69	1/2	3/4	5/8



27751 SAE 45° Swivel 45° Elbow

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
27751-6-5	-5	3/8	5/8-18	2.27	1.41	.40	1/2	3/4	13/16

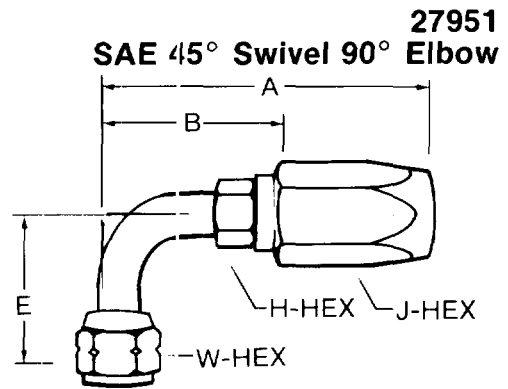


Notch in Nut for SAE Identification.
Size -6 only.

51 Series Fittings used with 510A, 518A Hose

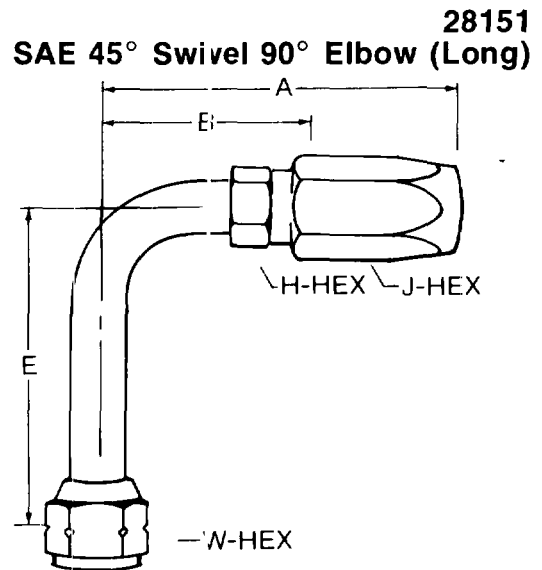
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
27951-6-5	-5	3/8	5/8-18	2.17	1.31	.85	1/2	3/4	13/16

Notch in Nut for SAE Identification.
Size -6 only.

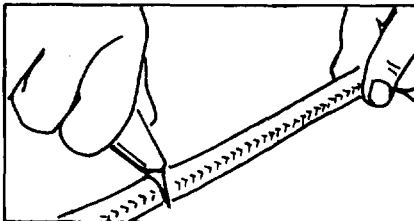


STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
28151-6-5	-5	3/8	5/8-18	2.17	1.31	2.18	1/2	3/4	13/16

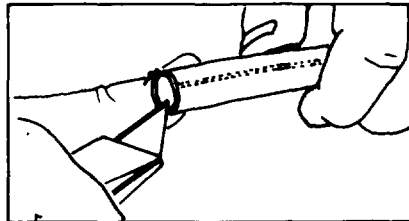
Notch in Nut for SAE Identification.
Size -6 only.



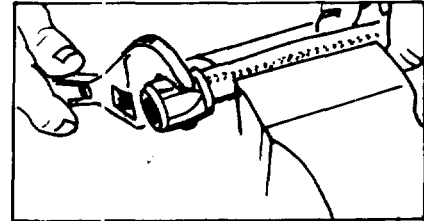
Assembly Instructions - 51 Series



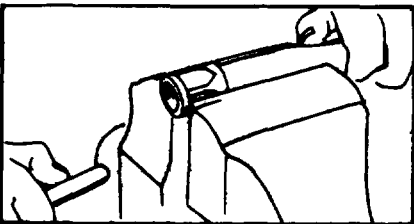
1. Measure the correct hose length by subtracting the cut-off allowance of both end fittings from the overall assembly length you want. Measure accurately; then cut hose squarely to correct length, with Parker hose cutter or very sharp knife.



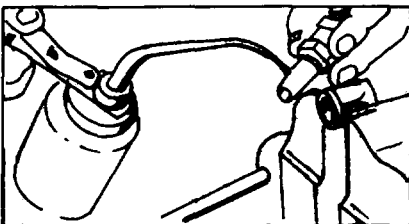
2. Chamfer end of hose with sharp knife and lubricate with oil.



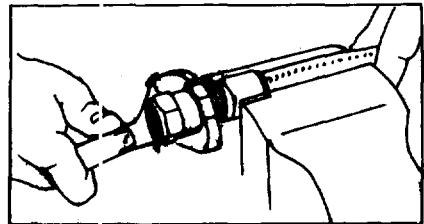
3. Grip hose in vise or Hozemblem. Do not crush the hose. Screw the socket counterclockwise until it bottoms. Back off 1/4 turn (if you prefer hold socket in vise and screw hose into it counterclockwise, then back off 1/4 turn).



4. Put hex portion of socket in vise.



5. Lubricate nipple thread liberally with heavy oil.



6. Screw nipple into socket, clockwise, with a wrench, on the nipple hex.

30 Series

Hose and Reusable Fittings
High Pressure - No-Skive

High Pressure SAE 100R2 Type AT



301 HOSE
Two Wire Braid



304 HOSE
For Phosphate Ester
Fluids



305 HOSE
Nylon Inner Tube



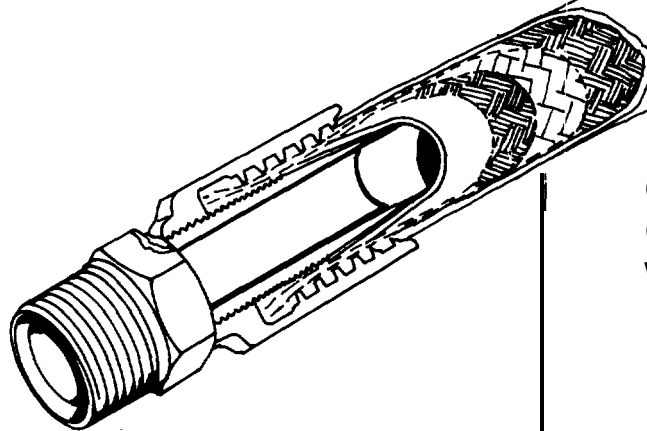
381 HOSE
Heavy Duty Two Wire
Braid

No Skive

- Assembly of No-Skive hose and fittings does not require removal of outer cover of hose. Eliminates premature hose failure caused by skiving too long or short.
- Use of No-Skive hose and fittings keeps outer cover intact, protecting vulnerable wire wrap during fitting assembly.
- Cushioned grip increases hose life — supporting cushion of compressed rubber between gripping threads on fitting reduces wire movement, minimizing stress.

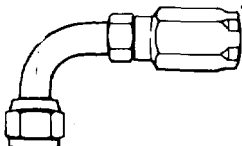
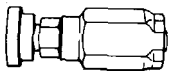
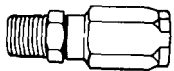
Hose Cover

*Need not be removed
for Assembly*



Reusable style fitting design permits quick, easy field assembly without special tools.

*... Just
Replace
The Hose!*



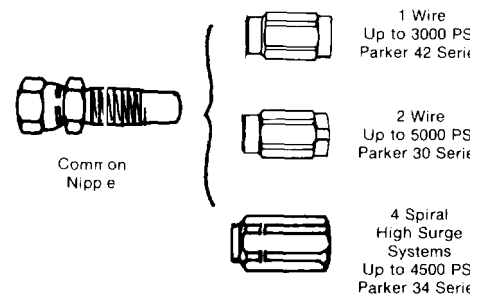
- Corrosion Protection - steel wire braid of No-Skive hose is never exposed, **because** outer rubber cover is not removed before fitting assembly.
- No-Skive fittings are designed to allow socket threads to penetrate outer cover of hose and grip the wire braid of the hose.
- Simple two step assembly - attach socket to hose, thread nipple to socket

The Common Nipple Concept:

Used interchangeably on 1 wire braid, 2 wire braid and 4 light spiral hoses. This concept means

- Reduced Inventory
- Faster hose changes
- Less investment
- Complete system coverage

Common Nipple is
Used With These Sockets:



One Nipple Stock - Does It All!

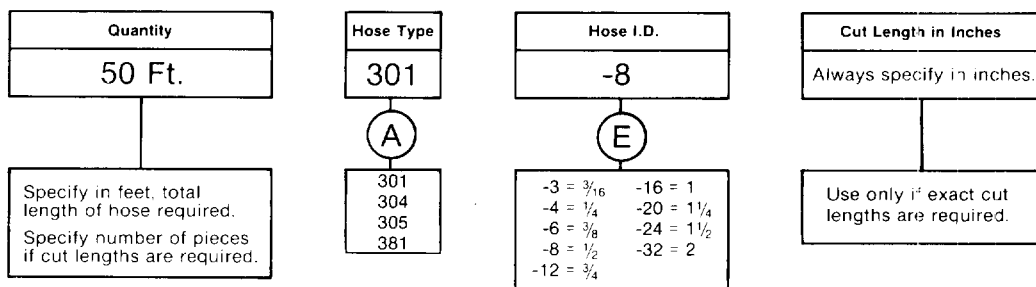
Hose and Reusable Fittings
High Pressure - No Skive

30 Series

How to Order Hose Only

When ordering hose, specify complete information as illustrated below.

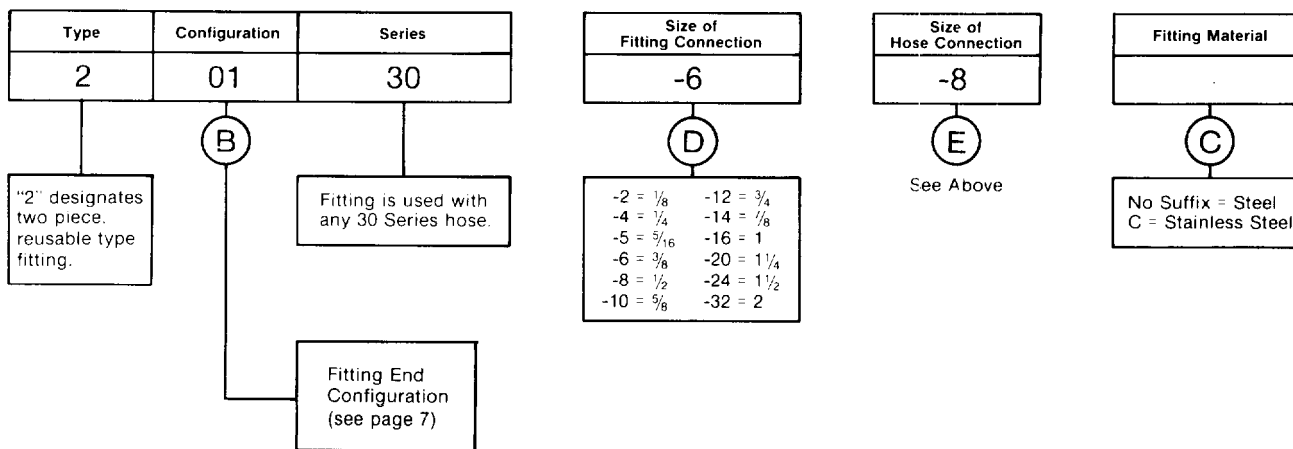
Examples: **50 Ft. 301-8** (bulk hose) **6 pcs. 301-8-120 inches** (exact lengths)



How to Order Fittings Only

Fittings are ordered by part number as listed in this catalog on pages A-64 - A-69.

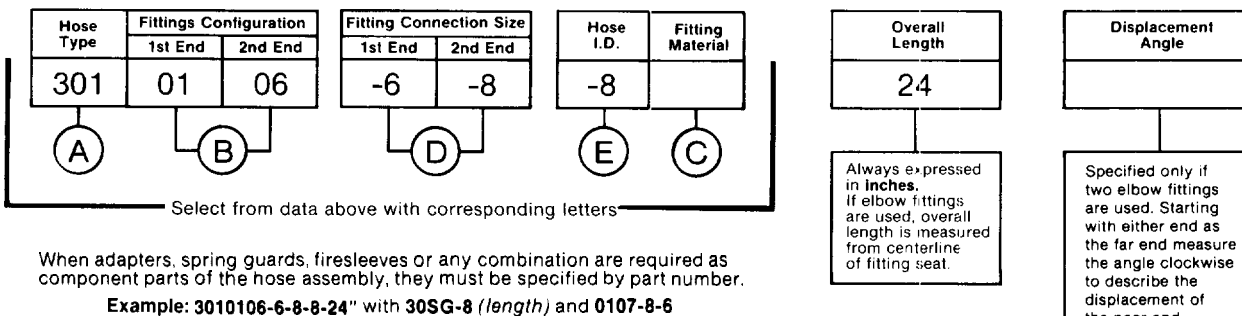
Example: **20130-6-8**



How to Order Hose Assemblies

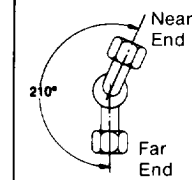
The following example illustrates how to order a hose assembly using 1/2" I.D. 301 hose, with 3/8" male pipe connection on one end, and 1/2" SAE (JIC) 37° Swivel connection on the other end. Fitting material is steel. Overall length is 24".

Example: **3010106-6-8-8-24"**



Typical Basic Assembly Numbers

End Connection #1	End Connection #2	01 Male Pipe	03 Male SAE (JIC) 37°	05 SAE Str. Thr'd. O-Ring	06 SAE (JIC) 37° Swivel	11 Ferrul-Fix
01 - Male Pipe		3010101	3010103	3010105	3010106	3010111
03 - Male SAE (JIC) 37°		3010301	3010303	3010305	3010306	3010311
05 - SAE Str. Thr'd. O-Ring		3010501	3010503	3010505	3010506	3010511



30 Series

Hose and Reusable Fittings High Pressure - No-Skive

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
301-3	3/16	.53	5,000	20,000	3 1/2
301-4	1/4	.59	5,000	20,000	4
301-6	3/8	.75	4,000	16,000	5
301-8	1/2	.87	3,500	14,000	7
301-12	3/4	1.17	2,250	9,000	9 1/2
301-16	1	1.50	2,000	8,000	12
301-20	1 1/4	1.87	1,625	6,500	16 1/2
301-24	1 1/2	2.13	1,250	5,000	20
301-32	2	2.63	1,125	4,500	25

301 No-Skive Hose SAE 100R2 TYPE AT

Hose cover does not have to be removed to attach No-Skive fitting.



Construction: Synthetic rubber tube, two braids of high tensile steel wire reinforcement separated by synthetic rubber layer; oil, weather and abrasion resistant synthetic rubber outer cover.

Application: High pressure service with petroleum base hydraulic fluids, water glycol and water-oil fire resistant hydraulic fluids, hot oil, grease, lubricants, crude and fuel oils, gasoline, air, water. Pin prick cover for air or gas application above 250 psi. Passed U.S. Bureau of Mines Flame Test. (MSHA).

Temperature Range: -40°F. to +200°F. (-40°C to +93°C)

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
304-3	3/16	.53	4,500	18,000	3 1/2
304-4	1/4	.59	4,500	18,000	4
304-6	3/8	.75	3,500	14,000	5
304-8	1/2	.87	3,000	12,000	7
304-12	3/4	1.17	2,250	9,000	9 1/2
304-16	1	1.50	1,875	7,500	12
304-20	1 1/4	1.87	1,625	6,500	16 1/2
304-24	1 1/2	2.13	1,250	5,000	20
304-32	2	2.63	1,000	4,000	25

304 No-Skive Hose

Hose cover does not have to be removed to attach No-Skive fittings.



Construction: Special synthetic rubber tube, two braids of high tensile steel wire reinforcement separated by synthetic rubber layer, oil, weather and abrasion resistant synthetic rubber outer cover. Green for identification.

Application: High pressure service with phosphate ester base fire-resistant hydraulic fluids.

Temperature Range: -40°F. to +200°F. (-40°C to +93°C)

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
305-4	1/4	.59	5,000	20,000	4
305-6	3/8	.75	4,000	16,000	5
305-8	1/2	.87	3,500	14,000	7
305-12	3/4	1.17	2,250	9,000	9 1/2
305-16	1	1.50	2,000	8,000	12
305-20	1 1/4	1.87	1,625	6,500	16 1/2

305 No-Skive Hose

Hose cover does not have to be removed to attach No-Skive fittings.



Construction: Seamless Nylon tube; two braids of high tensile steel wire reinforcement separated by synthetic rubber layer; oil, weather and abrasion resistant synthetic rubber cover.

Application: High pressure service with water glycol base and phosphate ester base fire-resistant hydraulic fluids, plus standard type hydraulic fluids. Cover does not support combustion. Passed U.S. Bureau of Mines flame test. (MSHA).

Temperature Range: -40°F. to +200°F. (-40°C to +93°C)



**381 Super No-Skive Hose
SAE 100R2 Type AT**

Hose cover does not have to be removed to attach No-Skive fittings.

Construction: Buna N or synthetic liner, two braids of special high tensile wire material separated by synthetic rubber layer. Cover is oil, weather and abrasion resistant synthetic rubber.

Application: 3E1 — high pressure service with petroleum base hydraulic fluids, water glycol and water-oil fire-resistant hydraulic fluids, hot oil, grease, lubricants, crude and fuel oils, gasoline, air water. Perforate cover for air or gas applications above 250 p.s.i. Passed U.S. Bureau of Mines flame test. (MSHA).

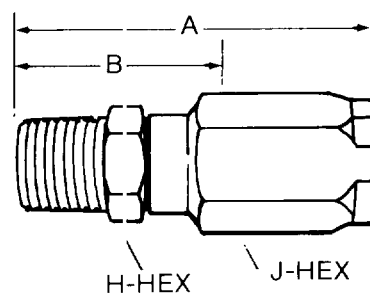
Temperature Range: -40° F. to +200° F. (-40° C to +93° C)

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
381-4	1/4	.59	5,800	20,000	4
381-6	3/8	.75	5,000	16,000	5
381-8	1/2	.87	4,500	14,000	7
381-12	3/4	1.17	3,200	9,000	9 1/2
381-16	1	1.50	2,550	8,000	12
381-20	1 1/4	1.87	2,300	6,500	16 1/2
381-24	1 1/2	2.13	1,875	5,000	20
381-32	2	2.63	1,650	4,500	25

30 Series Fittings used with 301, 304, 305, 381 Hose

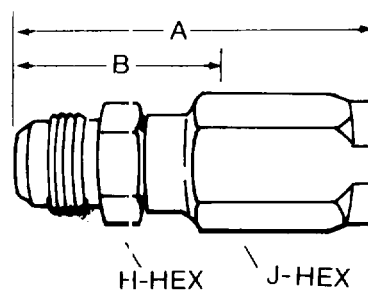
STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	J Hex
20130-2-3	-3	1/8-27	2.02	1.27	1/2	3/4
20130-4-3	-3	1/4-18	2.19	1.44	9/16	3/4
20130-2-4	-4	1/8-27	2.20	1.28	9/16	3/4
20130-4-4	-4	1/4-18	2.38	1.46	9/16	3/4
20130-6-4	-4	3/8-18	2.38	1.46	3/4	3/4
20130-4-6	-6	1/4-18	2.58	1.50	3/4	15/16
20130-6-6	-6	3/8-18	2.58	1.50	3/4	15/16
20130-8-6	-6	1/2-14	2.77	1.69	7/8	15/16
20130-6-8	-8	3/8-18	2.92	1.65	7/8	1 1/16
20130-8-8	-8	1/2-14	3.11	1.84	7/8	1 1/16
20130-12-8	-8	3/4-14	3.17	1.90	1 1/8	1 1/16
20130-12-12	-12	3/4-14	3.20	1.84	1 1/8	1 3/8
20130-12-16	-16	3/4-14	3.55	1.94	1 3/8	1 3/4
20130-16-16	-16	1 -11 1/2	3.74	2.13	1 3/8	1 3/4
20130-20-20	-20	1 1/4-11 1/2	4.41	2.61	1 3/4	2 1/4
20130-24-24	-24	1 1/2-11 1/2	4.80	2.72	2	2 1/2
20130-32-32	-32	2 -11 1/2	5.78	3.34	2 3/4	3

**20130
Male Pipe**



**20330
Male SAE (JIC) 37°**

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20330-4-3	-3	1/4	7/16-20	2.18	1.43	1/2	3/4
20330-4-4	-4	1/4	7/16-20	2.37	1.45	9/16	3/4
20330-5-4	-4	5/16	1/2-20	2.37	1.45	9/16	3/4
20330-6-4	-4	3/8	9/16-18	2.37	1.45	5/8	3/4
20330-6-6	-6	3/8	9/16-18	2.58	1.50	3/4	15/16
20330-8-6	-6	1/2	3/4-16	2.68	1.60	13/16	15/16
20330-8-8	-8	1/2	3/4-16	3.02	1.75	7/8	1 1/16
20330-10-8	-8	5/8	7/8-14	3.12	1.85	15/16	1 1/16
20330-12-12	-12	3/4	1 1/16-12	3.32	1.96	1 1/8	1 3/8
20330-14-12	-12	7/8	1 3/16-12	3.35	1.99	1 1/4	1 3/8
20330-16-16	-16	1	1 5/16-12	3.71	2.10	1 3/8	1 3/4
20330-20-20	-20	1 1/4	1 5/8-12	4.40	2.60	1 3/4	2 1/4
20330-24-24	-24	1 1/2	1 7/8-12	4.90	2.82	2	2 1/2
20330-32-32	-32	2	2 1/2-12	6.09	3.65	2 5/8	3

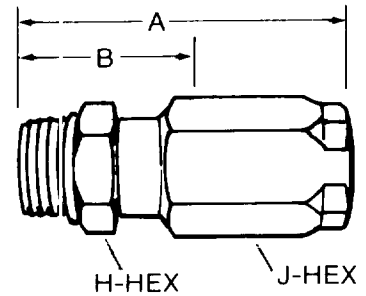


30 Series

30 Series Fittings used with 301, 304, 305, 381 Hose

STEEL Part No.	Hose Size	SAE Thread Size	A	B Cut-off Allow.	H Hex	J Hex
20530-4-3	-3	7/16-20	2.05	1.30	9/16	3/4
20530-4-4	-4	7/16-20	2.22	1.30	9/16	3/4
20530-5-4	-4	1/2-20	2.22	1.30	5/8	3/4
20530-6-4	-4	9/16-18	2.25	1.33	11/16	3/4
20530-6-6	-6	9/16-18	2.45	1.37	11/16	15/16
20530-8-6	-6	3/4-16	2.53	1.45	7/8	15/16
20530-10-6	-6	7/8-14	2.65	1.57	1	15/16
20530-8-8	-8	3/4-16	2.87	1.60	7/8	1 1/16
20530-10-8	-8	7/8-14	2.93	1.66	1	1 1/16
20530-12-8	-8	1 1/16-12	3.09	1.82	1 1/4	1 1/16
20530-12-12	-12	1 1/16-12	3.12	1.77	1 1/4	1 3/8
20530-16-16	-16	1 5/16-12	3.50	1.89	1 1/2	1 3/4
20530-20-20	-20	1 5/8-12	4.14	2.34	1 7/8	2 1/4
20530-24-24	-24	1 7/8-12	4.53	2.45	2 1/8	2 1/2

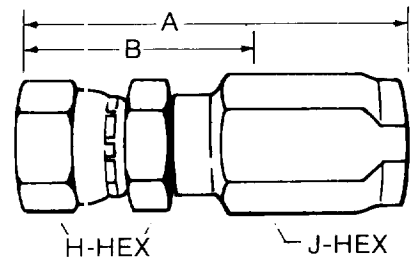
20530
SAE Straight Thread O-Ring



STEEL Part No.	Stainless STEEL Part No. *	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
			Size	Thread				
20630-4-3	--	-3	1/4	7/16-20	2.27	1.52	9/16	3/4
20630-4-4	20630-4-4C	-4	1/4	7/16-20	2.45	1.53	9/16	3/4
20630-5-4	--	-4	5/16	1/2-20	2.53	1.61	5/8	3/4
20630-6-4	20630-6-4C	-4	3/8	9/16-18	2.54	1.62	11/16	3/4
20630-6-6	20630-6-6C	-6	3/8	9/16-18	2.74	1.66	3/4	15/16
20630-8-6	20630-8-6C	-6	1/2	3/4-16	2.85	1.77	7/8	15/16
20630-8-8	20630-8-8C	-8	1/2	3/4-14	3.19	1.92	7/8	1 1/16
20630-10-8	20630-10-8C	-8	5/8	7/8-14	3.30	2.03	1	1 1/16
20630-12-8	--	-8	3/4	1 1/16-12	3.50	2.23	1 1/4	1 1/16
20630-10-12	--	-12	5/8	7/8-14	3.40	2.04	1 1/8	1 3/8
20630-12-12	20630-12-12C	-12	3/4	1 1/16-12	3.53	2.17	1 1/4	1 3/8
20630-14-12	--	-12	7/8	1 3/16-12	3.50	2.14	1 3/8	1 3/8
20630-16-12	--	-12	1	1 5/16-12	3.58	2.22	1 1/2	1 3/8
20630-16-16	20630-16-16C	-16	1	1 5/16-12	3.93	2.32	1 1/2	1 3/4
20630-20-16	--	-16	1 1/4	1 5/8-12	4.16	2.55	2	1 3/4
20630-20-20	20630-20-20C	-20	1 1/4	1 5/8-12	4.78	2.98	2	2 1/4
20630-24-24	--	-24	1 1/2	1 7/8-12	5.26	3.18	2 1/4	2 1/2
20630-32-32	--	-32	2	2 1/2-12	6.44	4.00	2 7/8	3

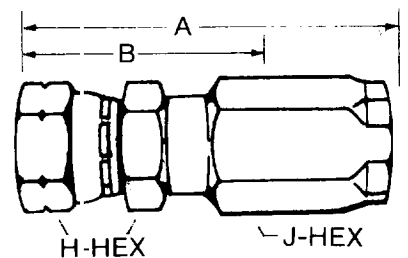
*Type 303 Stainless Steel.

20630
SAE (JIC) 37° Swivel



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20830-4-4	-4	1/4	7/16-20	2.45	1.53	9/16	3/4
20830-5-4	-4	5/16	1/2-20	2.53	1.61	5/8	3/4
20830-6-6	-6	3/8	5/8-18	2.79	1.71	3/4	15/16
20830-10-8	-8	5/8	7/8-14	3.30	2.03	1	1 1/16

20830
SAE 45° Swivel

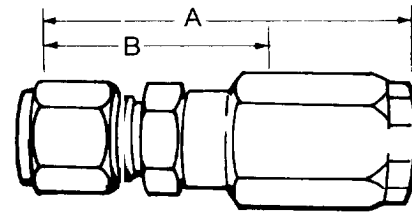


No. ch in nut for SAE identification.
Sizes -6 and -12 only.

30 Series Fittings used with 301, 304, 305, 381 Hose

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	W Hex
		Size	Thread					
21130-4-4	-4	1/4	7/16-20	2.25	1.33	9/16	3/4	9/16
21130-4-6	-6	1/4	7/16-20	2.45	1.37	3/4	15/16	9/16
21130-5-6	-6	5/16	1/2-20	2.45	1.37	3/4	15/16	5/8
21130-6-6	-6	3/8	9/16-18	2.47	1.39	3/4	15/16	1 1/16
21130-8-6	-6	1/2	3/4-16	2.58	1.50	3/4	15/16	7/8
21130-8-8	-8	1/2	3/4-16	2.90	1.63	7/8	1 1/16	7/8
21130-10-8	-8	5/8	7/8-14	2.96	1.69	15/16	1 1/16	1
21130-12-12	-12	3/4	1 1/16-12	3.13	1.77	1 1/8	1 3/8	1 1/4
21130-14-12	-12	7/8	1 3/16-12	3.13	1.77	1 1/4	1 3/8	1 3/8
21130-16-16	-16	1	1 5/16-12	3.48	1.87	1 3/8	1 3/4	1 1/2

21130
Ferrul-Fix
(SAE Flareless)



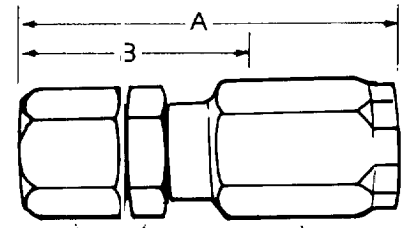
W-HEX H-HEX J-HEX

The Ferrul-Fix fitting makes it possible to salvage the bent tube section from a hose assembly for quick, easy, on the job repairs.

See Page A-104 for Installation Instructions

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
21230-4-4	-4	1/4	7/16-20	2.45	1.53	9/16	3/4
21230-6-4	-4	3/8	9/16-18	2.54	1.62	1 1/16	3/4
21230-6-6	-6	3/8	9/16-18	2.74	1.66	3/4	15/16
21230-8-6	-6	1/2	3/4-16	2.85	1.77	7/8	15/16
21230-8-8	-8	1/2	3/4-16	3.19	1.92	7/8	1 1/16
21230-10-8	-8	5/8	7/8-14	3.30	2.03	1	1 1/16
21230-12-12	-12	3/4	1 1/16-12	3.52	2.17	1 1/4	1 3/8
21230-14-12	-12	7/8	1 3/16-12	3.50	2.14	1 3/8	1 3/8
21230-16-16	-16	1	1 5/16-12	3.93	2.32	1 1/2	1 3/4

21230
SAE Flareless Swivel

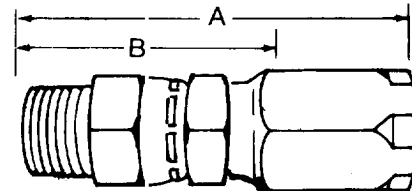


H-HEX J-HEX

Connects with Ferulok tube fittings, and other SAE J-514 flareless tube fittings.

21330
Male Pipe 360°
O-Ring* Swivel

STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	J Hex
21330-4-4	-4	1/4-18	3.21	2.29	5/8	3/4
21330-6-6	-6	3/8-18	3.49	2.41	3/4	15/16
21330-8-8	-8	1/2-14	4.02	2.75	7/8	1 1/16
21330-12-12	-12	3/4-14	4.22	2.86	1 1/4	1 3/8
21330-16-16	-16	1 -1 1/2	4.86	3.25	1 1/2	1 3/4



H-HEX J-HEX

*For use with Petroleum Base Fluids

The 21330 fitting allows minor movement under pressure to relieve stress on hose but is not recommended for continuous or extensive swiveling. For continuous swivel under pressure service see Hose Adapters page A-107.

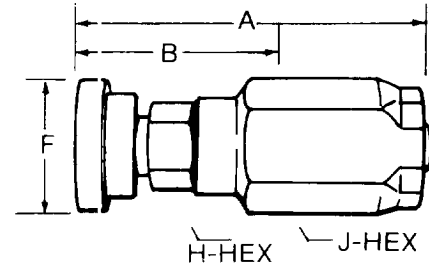
30 Series

Hose and Reusable Fittings
High Pressure - No-Skive

30 Series Fittings used with 301, 304, 305, 381 Hose

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	F Flange Dia.	H Hex	J Hex
21530-8-8	-8	1/2	3.72	2.45	1 3/16	1 1/16	1 1/16
21530-12-8	-8	3/4	3.78	2.51	1 1/2	1 1/16	1 1/16
21530-12-12	-12	3/4	3.88	2.52	1 1/2	1 5/16	1 3/8
21530-16-12	-12	1	3.88	2.52	1 3/4	1 5/16	1 3/8
21530-20-12	-12	1 1/4	3.88	2.52	2	1 5/16	1 3/8
21530-16-16	-16	1	4.16	2.55	1 3/4	1 1/4	1 3/4
21530-20-16	-16	1 1/4	4.16	2.55	2	1 1/4	1 3/4
21530-20-20	-20	1 1/4	5.20	3.40	2	1 5/8	2 1/4
21530-24-20	-20	1 1/2	5.26	3.46	2 3/8	1 5/8	2 1/4
21530-24-24	-24	1 1/2	5.55	3.47	2 3/8	1 7/8	2 1/2
21530-32-32	-32	2	6.63	4.19	2 13/16	2 1/2	3

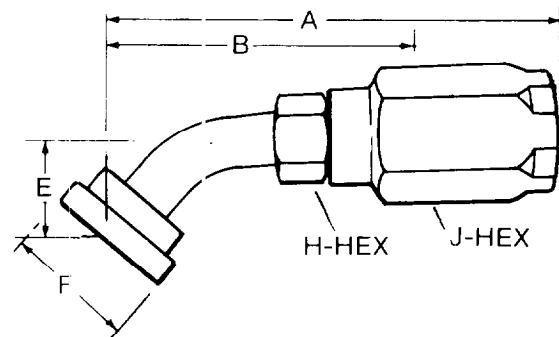
21530 SAE Flange Head Straight



Flange Kits listed on page **A-114**

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21730-8-8	-8	1/2	3.94	2.67	.78	1 3/16	1 1/16	1 1/16
21730-12-8	-8	3/4	3.98	2.71	.83	1 1/2	1 1/16	1 1/16
21730-12-12	-12	3/4	4.01	2.65	1.00	1 1/2	1 5/16	1 3/8
21730-16-12	-12	1	4.01	2.65	1.00	1 3/4	1 5/16	1 3/8
21730-16-16	-16	1	4.57	2.96	1.12	1 3/4	1 1/4	1 3/4
21730-20-16	-16	1 1/4	4.57	2.96	1.12	2	1 1/4	1 3/4
21730-20-20	-20	1 1/4	5.36	3.56	1.12	2	1 5/8	2 1/4
21730-24-20	-20	1 1/2	5.40	3.60	1.16	2 3/8	1 5/8	2 1/4
21730-24-24	-24	1 1/2	6.95	4.87	1.44	2 3/8	1 7/8	2 1/2
21730-32-32	-32	2	9.12	6.68	2.12	2 13/16	2 1/2	3

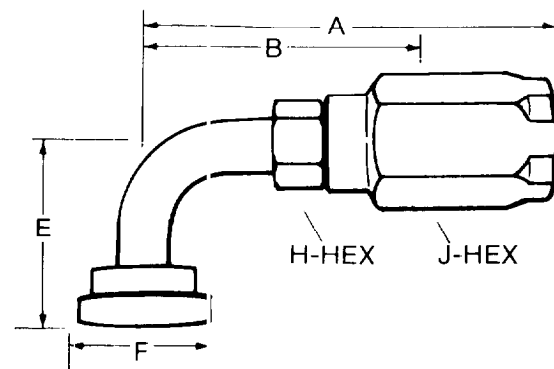
21730 SAE Flange Head 45° Elbow



Flange Kits listed on page **A-114**

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21930-8-8	-8	1/2	3.59	2.32	1.62	1 3/16	1 1/16	1 1/16
21930-12-8	-8	3/4	3.59	2.32	1.68	1 1/2	1 1/16	1 1/16
21930-12-12	-12	3/4	3.73	2.37	2.12	1 1/2	1 5/16	1 3/8
21930-16-12	-12	1	3.73	2.37	2.12	1 3/4	1 5/16	1 3/8
21930-20-12	-12	1 1/4	3.73	2.37	2.12	2	1 5/16	1 3/8
21930-16-16	-16	1	4.33	2.72	2.38	1 3/4	1 1/4	1 3/4
21930-20-16	-16	1 1/4	4.33	2.72	2.38	2	1 1/4	1 3/4
21930-20-20	-20	1 1/4	5.26	3.46	2.50	2	1 5/8	2 1/4
21930-24-20	-20	1 1/2	5.26	3.46	2.56	2 3/8	1 5/8	2 1/4
21930-24-24	-24	1 1/2	6.95	4.87	3.12	2 3/8	1 7/8	2 1/2
21930-32-32	-32	2	9.28	6.84	4.50	2 13/16	2 1/2	3

21930 SAE Flange Head 90° Elbow

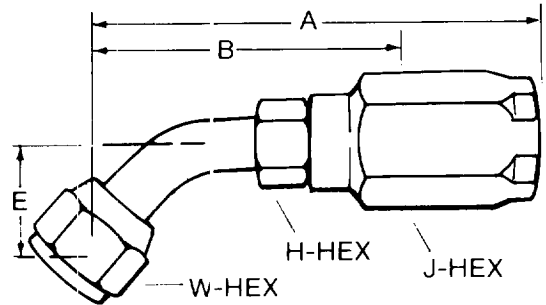


Flange Kits listed on page **A-114**

30 Series Fittings used with 301, 304, 305, 381 Hose

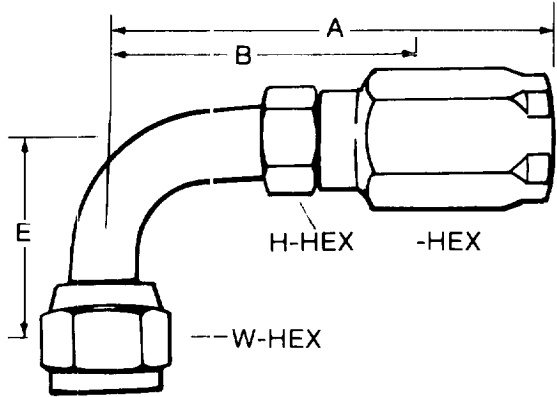
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23730-4-4	-4	1/4	7/16-20	2.45	1.53	.33	7/16	3/4	9/16
23730-6-6	-6	3/8	9/16-18	2.76	1.68	.40	9/16	15/16	1 1/16
23730-8-8	-8	1/2	3/4-16	3.39	2.12	.55	1 1/16	1 1/16	7/8
23730-10-8	-8	5/8	7/8-14	3.47	2.20	.64	1 3/16	1 1/16	1
23730-12-12	-12	3/4	1 1/16-12	3.81	2.45	.78	1 5/16	1 3/8	1 1/4
23730-16-16	-16	1	1 5/16-12	4.32	2.71	.89	1 1/4	1 3/4	1 1/2

23730
SAE (JIC) 37° Swivel 45° Elbow



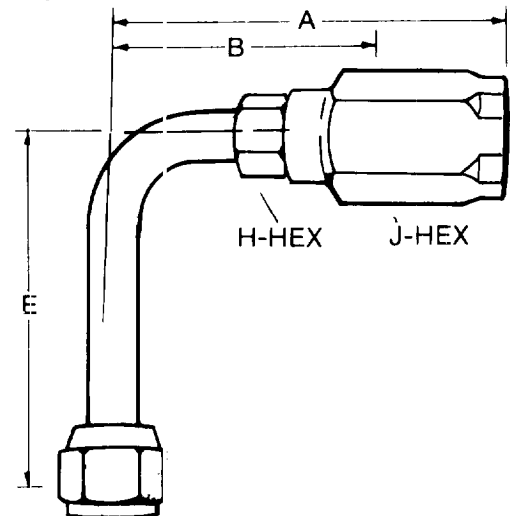
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23930-4-4	-4	1/4	7/16-20	2.34	1.42	.68	7/16	3/4	9/16
23930-6-6	-6	3/8	9/16-18	2.67	1.59	.85	9/16	15/16	1 1/16
23930-8-6	-6	1/2	3/4-16	2.87	1.79	1.09	1 1/16	15/16	7/8
23930-8-8	-8	1/2	3/4-16	3.15	1.88	1.09	1 1/16	1 1/16	1
23930-10-8	-8	5/8	7/8-14	3.20	1.93	1.23	1 3/16	1 1/16	1
23930-10-12	-12	5/8	7/8-14	3.27	2.07	1.23	1 3/16	1 3/8	1
23930-12-12	-12	3/4	1 1/16-12	3.73	2.37	1.82	1 5/16	1 3/8	1 1/4
23930-16-16	-16	1	1 5/16-12	4.32	2.71	2.14	1 1/4	1 3/4	1 1/2
23930-20-20	-20	1 1/4	1 5/8-12	5.45	3.65	2.35	1 5/8	2 1/4	2

23930
SAE (JIC) 37° Swivel 90° Elbow



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
24130-4-4	-4	1/4	7/16-20	2.34	1.42	1.80	7/16	3/4	9/16
24130-6-6	-6	3/8	9/16-18	2.67	1.59	2.18	9/16	15/16	1 1/16
24130-8-8	-8	1/2	3/4-16	3.15	1.88	2.43	1 1/16	1 1/16	7/8
24130-10-8	-8	5/8	7/8-14	3.20	1.93	2.57	1 1/16	1 1/16	1
24130-12-12	-12	3/4	1 1/16-12	3.73	2.37	3.73	1 5/16	1 3/8	1 1/4
24130-16-16	-16	1	1 5/16-12	4.32	2.71	4.33	1 1/4	1 3/4	1 1/2

24130
SAE (JIC) 37° Swivel 90° Elbow (Long)



30 Series

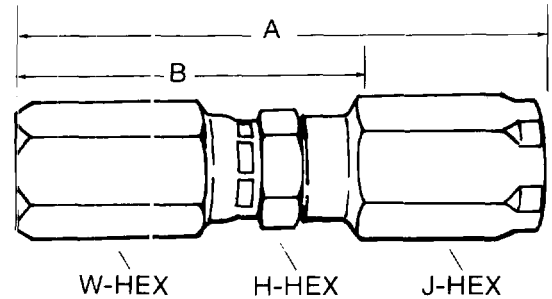
Hose and Reusable Fittings
High Pressure - No-Skive

30 Series Fittings used with 301, 304, 305, 381 Hose

24830 Female SAE (JIC) 37° O-Ring* Swivel

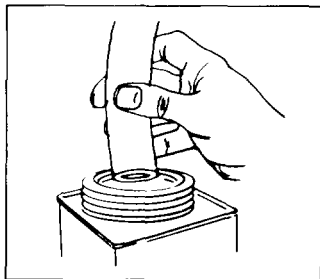
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	W Hex
		Size	Thread					
24830-6-4	-4	3/8	9/16-18	3.60	2.52	5/8	3/4	3/4
24830-8-6	-6	1/2	3/4-16	3.81	2.59	3/4	15/16	7/8
24830-10-8	-8	5/8	7/8-14	4.40	2.98	7/8	1 1/16	1
24830-14-12	-12	7/8	1 3/16-12	4.76	3.18	1 1/4	1 3/8	1 3/8
24830-16-16	-16	1	1 5/16-12	5.09	3.35	1 1/2	1 3/4	1 1/2

The 24830 fitting allows minor movement under pressure to relieve stress on hose but is not recommended for continuous or extensive swiveling. For continuous swivel under pressure service see Hose Adapters Page A-108.

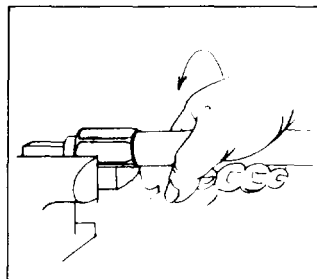


*For use with Petroleum Base Fluids

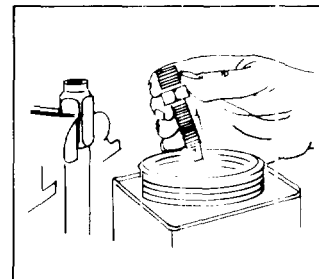
Assembly Instructions - 30 Series



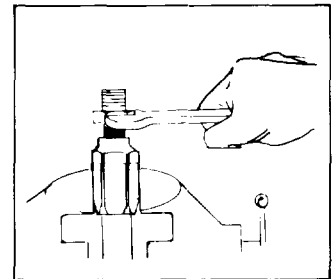
Dip hose into Heavy Oil, (NSN 9150-00-186-6681).



Place socket in vise as shown. Thread hose counter-clockwise into socket until hose bottoms. Back off 1/2 turn.



Dip hose end of nipple into Heavy Oil, (NSN 9150-00-186-6681) up to hex.



Thread nipple clockwise into socket until nipple hex shoulders against socket.

CAUTION:

Special Instruction for 304 Hose. Do not allow tube to contact any petroleum base fluids. Use liquid soap as hose lubricant.

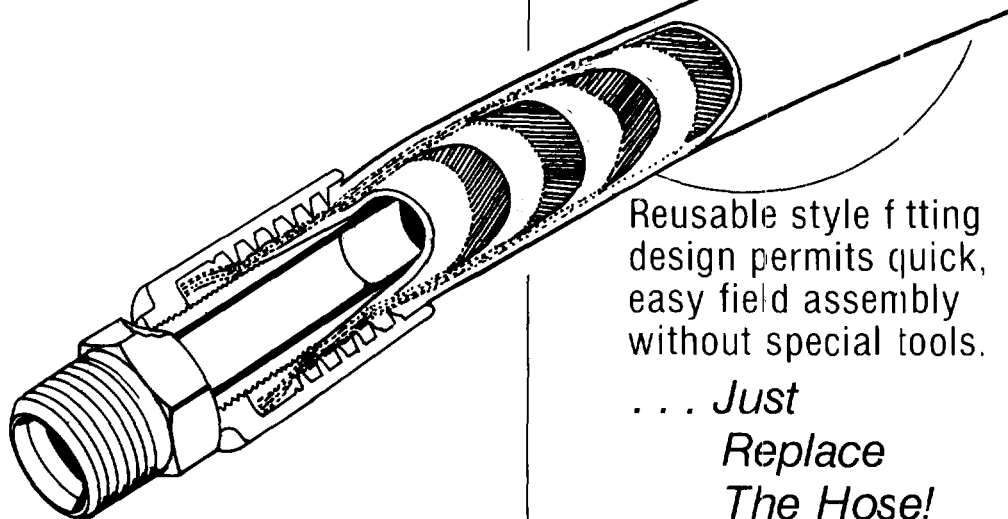
Very High Pressure SAE 100R9 Type AT

No Skive

- Spiral wire wrapped hose construction increases service life *four* times that of equivalent sizes of wire braided hoses.
- Assembly of No-Skive hose and fittings does not require removal of outer cover of hose. Eliminates premature hose failure caused by skiving too long or short.
- Use of No-Skive hose and fittings keeps outer cover intact, protecting vulnerable wire wrap during fitting assembly.

Hose Cover

Need not be removed for Assembly



Reusable style fitting design permits quick, easy field assembly without special tools.

*... Just
Replace
The Hose!*

The Common Nipple Concept:

Used interchangeably on 1 wire braid, 2 wire braid and 4 light spiral hoses. This concept means:

- Cushioned grip increases hose life — supporting cushion of compressed rubber between gripping threads on fitting reduces wire movement, minimizing stress.
- Corrosion Protection - steel wire spiral of No-Skive hose is never exposed, because outer rubber cover is not removed before fitting assembly.
- No-Skive fittings are designed to allow socket threads to penetrate outer cover of hose and grip the wire wrap of the hose.
- Simple two step assembly - attach socket to hose, thread nipple to socket.

- Reduced Inventory
- Faster hose changes
- Less investment
- Complete system coverage

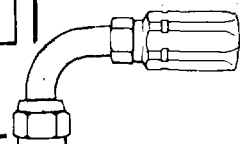
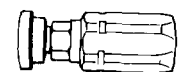
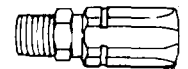
Common Nipple is Used With These Sockets:



341 HOSE
Four Spiral
Reinforcement



344 HOSE
For Phosphate
Ester Fluids



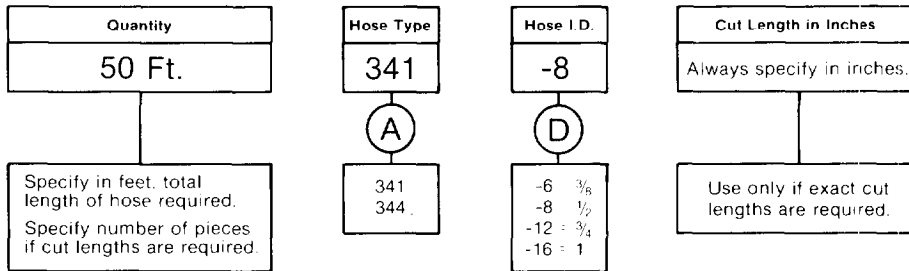
One Nipple Stock — Does It All!

34 Series

How to Order Hose Only

When ordering hose, specify complete information as illustrated below.

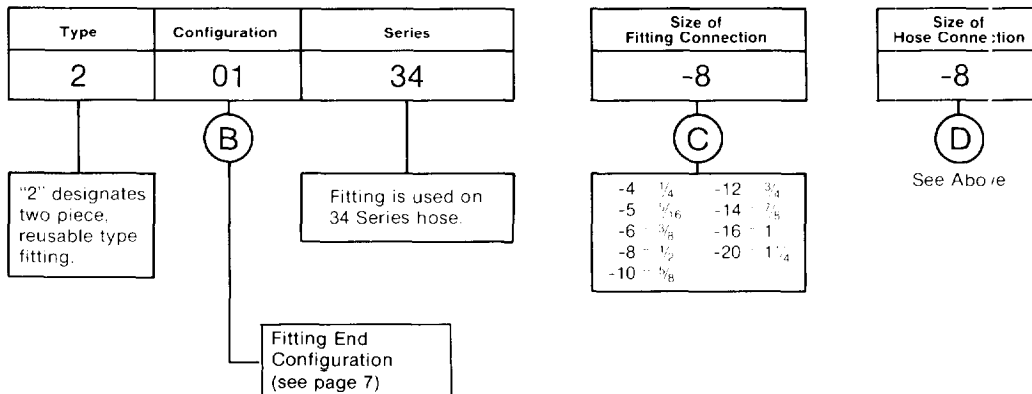
Examples: 50 Ft. 341-8 (bulk hose) 3 pcs. 341-8-120 inches (exact cut lengths)



How to Order Fittings Only

Fittings are ordered by part number as listed in this catalog on pages A-72 - A-76.

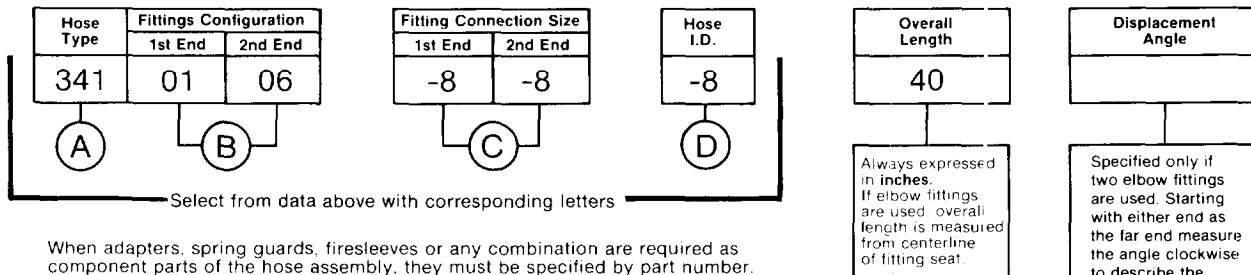
Example: 20134-8-8



How to Order Hose Assemblies

The following example illustrates how to order a hose assembly using 1/2" I.D. 341 hose, with 1/2" male pipe connection on one end, 1/2" SAE (JIC) 37° Swivel connection on the other end. Overall length is 40".

Example: 3410106-8-8-8-40"

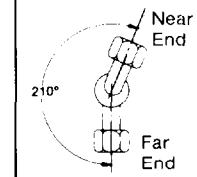


When adapters, spring guards, firesleeves or any combination are required as component parts of the hose assembly, they must be specified by part number.

Example: 3410106-8-8-8-40" with 34SG-8 (length) and 0107-12-8

Typical Basic Assembly Numbers

End Connection #1	End Connection #2	01 Male Pipe	03 Male SAE (JIC) 37°	05 SAE Str. Thr'd. O-Ring	06 SAE (JIC) 37° Swivel	08 SAE 45° Swivel
01 - Male Pipe		3410101	3410103	3410105	3410106	3410108
03 - Male SAE (JIC) 37°		3410301	3410303	3410305	3410306	3410308
05 - SAE Str. Thr'd. O-Ring		3410501	3410503	3410505	3410506	3410508



**341 No-Skive Hose
SAE 100R9 Type AT**

Hose cover does not have to be removed to attach No-Skive fittings.



Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
341-6	3/8	.81	4,500	18,000	5
341-8	1/2	.92	4,000	16,000	7
341-12	3/4	1.22	3,000	12,000	9 1/2
341-16	1	1.56	2,500	10,000	12

Construction Synthetic rubber tube, four spirals of high tensile steel wire reinforcement separated by synthetic rubber layers; oil, weather and abrasion resistant synthetic rubber outer cover.

Application: For high pressure service with petroleum base hydraulic fluids, water glycol or water-oil fire resistant hydraulic fluids, grease, lubricants, crude and fuel oils, gasoline, air, water. Passed U.S. Bureau of Mines flame test. (MSHA).

Temperature Range: -40° F. to +200° F. (-40° C to +93° C).

344 No-Skive Hose

Hose cover does not have to be removed to attach No-Skive fittings.



Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
344-6	3/8	.81	4,500	18,000	5
344-8	1/2	.92	4,000	16,000	7
344-12	3/4	1.22	3,000	12,000	9 1/2
344-16	1	1.56	2,500	10,000	11

Construction: Special synthetic rubber liner, four spirals of high tensile steel wire reinforcement separated by synthetic rubber layers; oil, weather and abrasion resistant synthetic rubber outer cover. Green for identification.

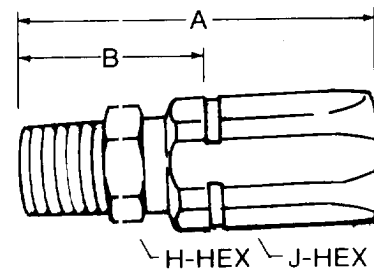
Application: For high pressure service with phosphate ester base fire-resistant hydraulic fluids.

Temperature Range: -40° F. to +200° F. (-40° C to +93° C)

34 Series Fittings used with 341, 344 Hose

STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	J Hex
20134-4-6	-6	1/4-18	2.63	1.30	3/4	1
20134-6-6	-6	3/8-18	2.63	1.30	3/4	1
20134-8-6	-6	1/2-14	2.81	1.48	7/8	1
20134-6-8	-8	3/8-18	2.97	1.49	7/8	1 1/8
20134-8-8	-8	1/2-14	3.16	1.68	7/8	1 1/8
20134-12-8	-8	3/4-14	3.22	1.74	1 1/8	1 1/8
20134-12-12	-12	3/4-14	3.40	1.83	1 1/8	1 7/16
20134-12-16	-16	3/4-14	3.61	1.73	1 3/8	1 7/8
20134-16-16	-16	1 -11 1/2	3.80	1.92	1 3/8	1 7/8

**20134
Male Pipe**

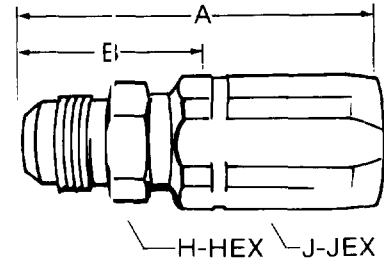


34 Series

34 Series Fittings used with 341, 344 Hose

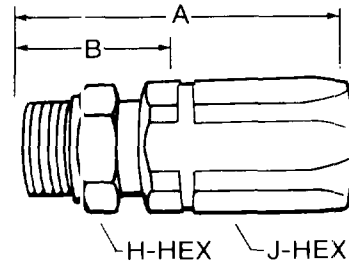
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20334-6-6	-6	3/8	9/16-18	2.63	1.30	3/4	1
20334-8-6	-6	1/2	3/4-16	2.73	1.40	13/16	1
20334-8-8	-8	1/2	3/4-16	3.07	1.59	7/8	1 1/8
20334-10-8	-8	5/8	7/8-14	3.17	1.69	15/16	1 1/8
20334-12-12	-12	3/4	1 1/16-12	3.52	1.85	1 1/8	1 7/16
20334-14-12	-12	7/8	1 3/16-12	3.54	2.18	1 1/4	1 3/8
20334-16-16	-16	1	1 5/16-12	3.77	1.89	1 3/8	1 7/8

20334
Male SAE (JIC) 37°



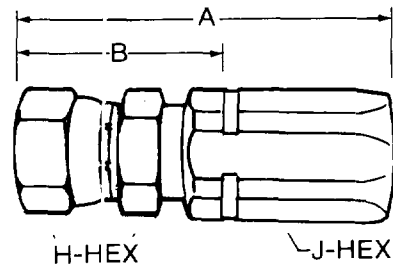
STEEL Part No.	Hose Size	SAE Thread Size	A	B Cut-off Allow.	H Hex	J Hex
20534-6-6	-6	9/16-18	2.50	1.17	1 1/16	1
20534-8-6	-6	3/4-16	2.58	1.25	7/8	1
20534-10-6	-6	7/8-14	2.70	1.37	1	1
20534-8-8	-8	3/4-16	2.92	1.44	7/8	1 1/8
20534-10-8	-8	7/8-14	2.98	1.50	1	1 1/8
20534-12-8	-8	1 1/16-12	3.14	1.66	1 1/4	1 1/8
20534-12-12	-12	1 1/16-12	3.33	1.66	1 1/4	1 7/16
20534-16-16	-16	1 5/16-12	3.56	1.68	1 1/2	1 7/8

20534
SAE Straight Thread O-Ring



STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20634-6-6	-6	3/8	9/16-18	2.79	1.46	3/4	1
20634-8-6	-6	1/2	3/4-16	2.90	1.57	7/8	1
20634-8-8	-8	1/2	3/4-16	3.24	1.76	7/8	1 1/8
20634-10-8	-8	5/8	7/8-14	3.35	1.87	1	1 1/8
20634-12-8	-8	3/4	1 1/16-12	3.55	2.07	1 1/4	1 1/8
20634-10-12	-12	5/8	7/8-14	3.60	1.93	1 1/8	1 7/16
20634-12-12	-12	3/4	1 1/16-12	3.73	2.06	1 1/4	1 7/16
20634-14-12	-12	7/8	1 3/16-12	3.70	2.03	1 3/8	1 7/16
20634-16-12	-12	1	1 5/16-12	3.78	2.11	1 1/2	1 7/16
20634-16-16	-16	1	1 5/16-12	3.99	2.11	1 1/2	1 7/8
20634-20-16	-16	1 1/4	1 5/8-12	4.22	2.34	2	1 7/8

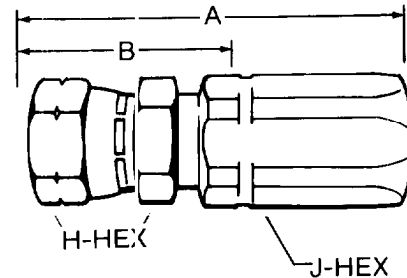
20634
SAE (JIC) 37° Swivel



34 Series Fittings used with 341, 344 Hose

20834
SAE 45° Swivel

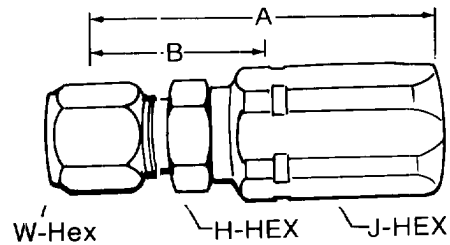
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20834-6-6	-6	3/8	5/8-18	2.84	1.51	3/4	1
20834-10-8	-8	5/8	7/8-14	3.35	1.87	1	1 1/8



Notch in Nut for SAE Identification.
Size -6 only

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	W Hex
		Size	Thread					
21134-4-6	-6	1/4	7/16-20	2.50	1.17	3/4	1	9/16
21134-5-6	-6	5/16	1/2-20	2.50	1.17	3/4	1	5/8
21134-6-6	-6	3/8	9/16-18	2.52	1.19	3/4	1	1 1/16
21134-8-6	-6	1/2	3/4-16	2.63	1.30	13/16	1	7/8
21134-8-8	-8	1/2	3/4-16	2.95	1.47	7/8	1 1/8	7/8
21134-10-8	-8	5/8	7/8-14	3.01	1.53	15/16	1 1/8	1
21134-12-12	-12	3/4	1 1/16-12	3.33	1.66	1 1/8	1 7/16	1 1/4
21134-14-12	-12	7/8	1 3/16-12	3.33	1.66	1 1/4	1 7/16	1 3/8
21134-16-16	-16	1	1 5/16-12	3.54	1.68	1 3/8	1 7/8	1 1/2

21134
Ferrul-Fix
(SAE Flareless)

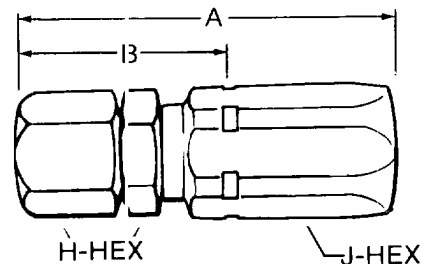


The Ferrul-Fix fitting makes it possible to salvage the bent tube section from a hose assembly for quick, easy, on the job repairs.

See page A-104 for
Installation Instructions

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
21234-6-6	-6	3/8	9/16-18	2.79	1.46	3/4	1
21234-8-6	-6	1/2	3/4-16	2.90	1.57	7/8	1
21234-8-8	-8	1/2	3/4-16	3.24	1.76	7/8	1 1/8
21234-10-8	-8	5/8	7/8-14	3.35	1.87	1	1 1/8
21234-12-12	-12	3/4	1 1/16-12	3.73	2.06	1 1/4	1 7/16
21234-14-12	-12	7/8	1 3/16-12	3.70	2.03	1 3/8	1 7/16
21234-16-16	-16	1	1 5/16-12	3.99	2.11	1 1/2	1 7/8

21234
SAE Flareless Swivel



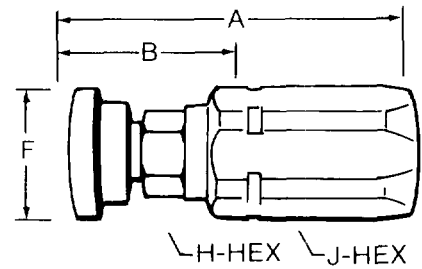
Connects with Ferrulok Tube Fittings and other SAE J5-4 flareless tube fittings.

34 Series

34 Series Fittings used with 341, 344 Hose

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	F Flange Dia.	H Hex	J Hex
21534-8-8	-8	1/2	3.77	2.29	1 3/16	1 1/16	1 1/8
21534-12-12	-12	3/4	4.08	2.41	1 1/2	1 5/16	1 7/16
21534-16-12	-12	1	4.08	2.41	1 3/4	1 5/16	1 7/16
21534-20-12	-12	1 1/4	4.08	2.41	2	1 5/16	1 7/16
21534-16-16	-16	1	4.22	2.34	1 3/4	1 1/4	1 7/8
21534-20-16	-16	1 1/4	4.22	2.34	2	1 1/4	1 7/8

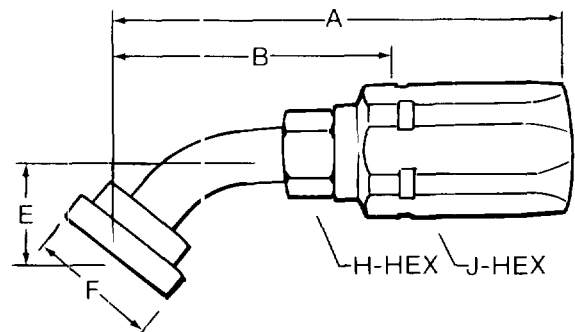
21534 SAE Flange Head Straight



Flange kits listed on page A-114

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21734-8-8	-8	1/2	3.99	2.51	.78	1 3/16	1 1/16	1 1/8
21734-12-12	-12	3/4	4.21	2.54	1.00	1 1/2	1 5/16	1 7/16
21734-16-12	-12	1	4.21	2.54	1.00	1 3/4	1 5/16	1 7/16
21734-16-16	-16	1	4.63	2.75	1.12	1 3/4	1 1/4	1 7/8
21734-20-16	-16	1 1/4	4.63	2.75	1.12	2	1 1/4	1 7/8

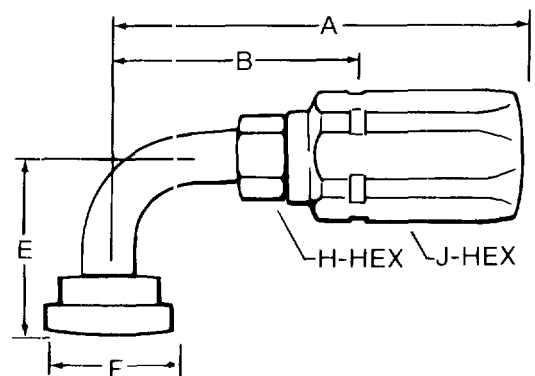
21734 SAE Flange Head 45° Elbow



Flange kits listed on page A-114

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21934-8-8	-8	1/2	3.64	2.16	1.62	1 3/16	1 1/16	1 1/8
21934-12-12	-12	3/4	3.93	2.26	2.12	1 1/2	1 5/16	1 7/16
21934-16-12	-12	1	3.93	2.26	2.12	1 3/4	1 5/16	1 7/16
21934-20-12	-12	1 1/4	3.93	2.26	2.12	2	1 5/16	1 7/16
21934-16-16	-16	1	4.39	2.51	2.38	1 3/4	1 1/4	1 7/8
21934-20-16	-16	1 1/4	4.39	2.51	2.38	2	1 1/4	1 7/8

21934 SAE Flange Head 90° Elbow



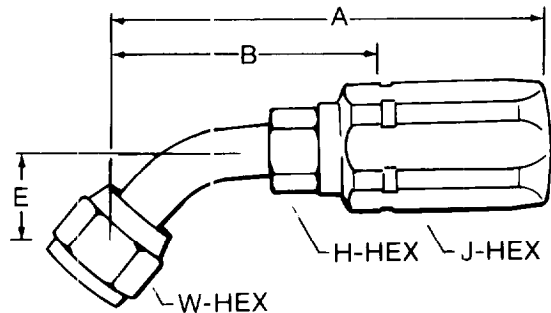
Flange kits listed on page A-114

34 Series Fittings used with 341, 344 Hose

23734

SAE (JIC) 37° Swivel 45° Elbow

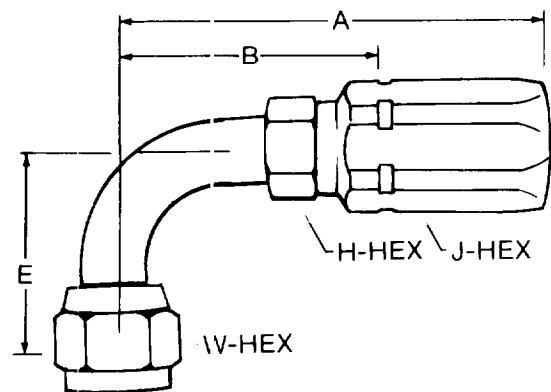
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23734-6-6	-6	3/8	9/16-18	2.81	1.48	.40	9/16	1	1 1/16
23734-8-8	-8	1/2	3/4-16	3.44	1.96	.55	1 1/16	1 1/8	7/8
23734-10-8	-8	5/8	7/8-14	3.52	2.04	.64	13/16	1 1/8	1
23734-12-12	-12	3/4	1 1/16-12	4.01	2.34	.78	15/16	1 7/16	1 1/4
23734-16-16	-16	1	1 5/16-12	4.38	2.50	.89	1 1/4	1 7/8	1 1/2



23934

SAE (JIC) 37° Swivel 90° Elbow

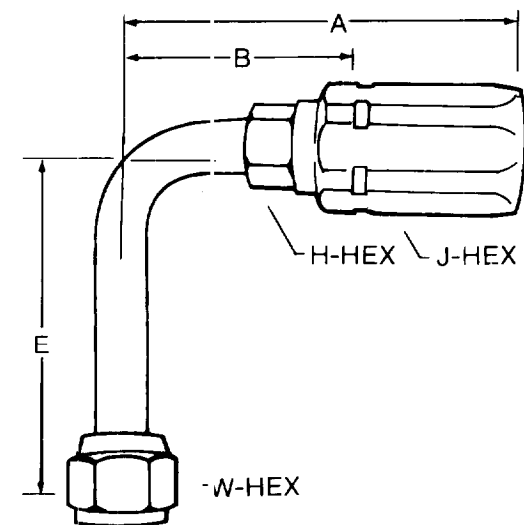
STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23934-6-6	-6	3/8	9/16-18	2.72	1.39	.85	9/16	1	1 1/16
23934-8-6	-6	1/2	3/4-16	2.92	1.59	1.09	1 1/16	1	7/8
23934-8-8	-8	1/2	3/4-16	3.20	1.72	1.09	1 1/16	1 1/8	1
23934-10-8	-8	5/8	7/8-14	3.25	1.77	1.23	13/16	1 1/8	1
23934-12-12	-12	3/4	1 1/16-12	3.93	2.26	1.82	15/16	1 7/16	1 1/4
23934-16-16	-16	1	1 5/16-12	4.38	2.50	2.14	1 1/4	1 7/8	1 1/2



24134

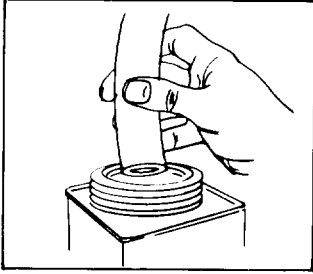
SAE (JIC) 37° Elbow (Long)

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
24134-6-6	-6	3/8	9/16-18	2.72	1.39	2.18	9/16	1	1 1/16
24134-8-8	-8	1/2	3/4-16	3.33	1.85	2.43	1 1/16	1 1/8	7/8
24134-10-8	-8	5/8	7/8-14	3.50	2.02	2.57	13/16	1 1/8	1
24134-12-12	-12	3/4	1 1/16-12	3.93	2.26	3.73	15/16	1 7/16	1 1/4
24134-16-16	-16	1	1 5/16-12	4.38	2.50	4.33	1 1/4	1 7/8	1 1/2

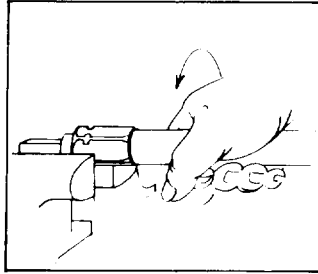


34 Series

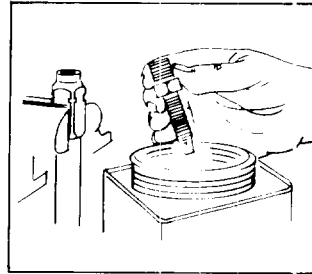
Assembly Instructions -34 Series



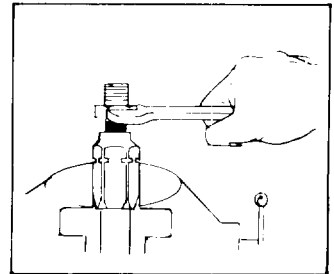
Dip hose into Heavy Oil,
 (NSN 9150-00-186-6681).



Place socket in vise as shown. Thread hose counter-clockwise into socket until hose bottoms. Back off 1/2 turn.



Dip hose end of nipple into Heavy Oil, (NSN 9150-00-186-6681).



Thread nipple clockwise into socket until nipple hex shoulders against socket.

CAUTION:

Special Instruction for 344 Hose. Do not allow tube to contact any petroleum base fluids. Use liquid soap as hose lubricant.

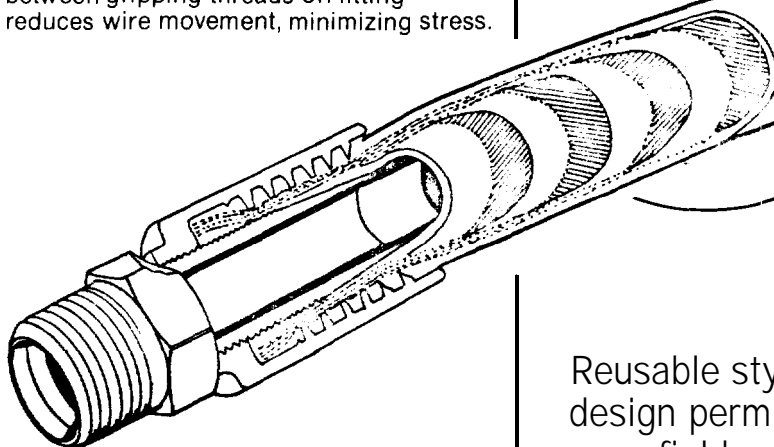
Extreme High Pressure No-Skive Hose and Fittings

No Skive

- Spiral wire wrapped hose construction increases service life *four* times that of equivalent sizes of wire braided hoses.
- Assembly of No-Skive hose and fittings does not require removal of outer cover of hose. Eliminates premature hose failure caused by skiving too long or short.
- Use of No-Skive hose and fittings keeps outer cover intact, protecting vulnerable wire braid during fitting assembly.
- Cushioned grip increases hose life — supporting cushion of compressed rubber between gripping threads on fitting reduces wire movement, minimizing stress.

Hose Cover

*Need not be removed
 for Assembly*



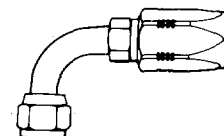
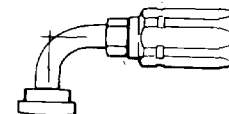
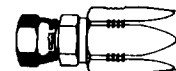
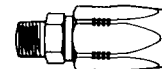
Reusable fitting design permits quick, easy field assembly without special tools.

*... Just
 Replace
 The Hose!*

- Corrosion Protection - steel wire spiral of No-Skive hose is never exposed, because outer rubber is not removed before fitting assembly.
- No-Skive fittings are designed to allow socket threads to penetrate outer cover of hose and grip the wire wrap of the hose.
- Simple two step assembly - attach socket to hose, thread nipple to socket.



741 HOSE
 Four Spiral
 Reinforcement



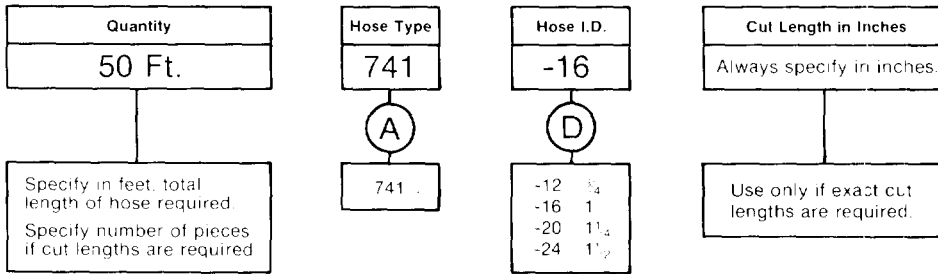
74 Series

Hose and Reusable Fittings
Extreme High Pressure - No-Skive

How to Order Hose Only

When ordering hose, specify complete information as illustrated below.

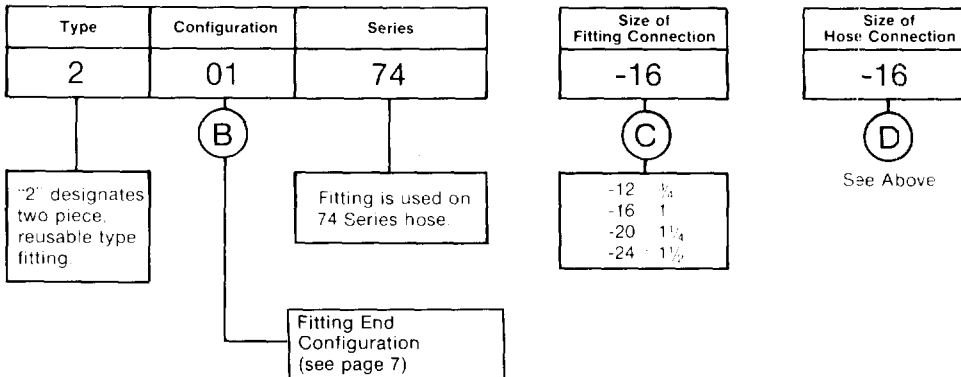
Examples: **50 Ft. 741-16** (bulk hose) **6 pcs. 741-16-120 inches** (exact cut lengths)



How to Order Fittings Only

Fittings are ordered by part number as listed in this catalog on pages A-80 - A-82.

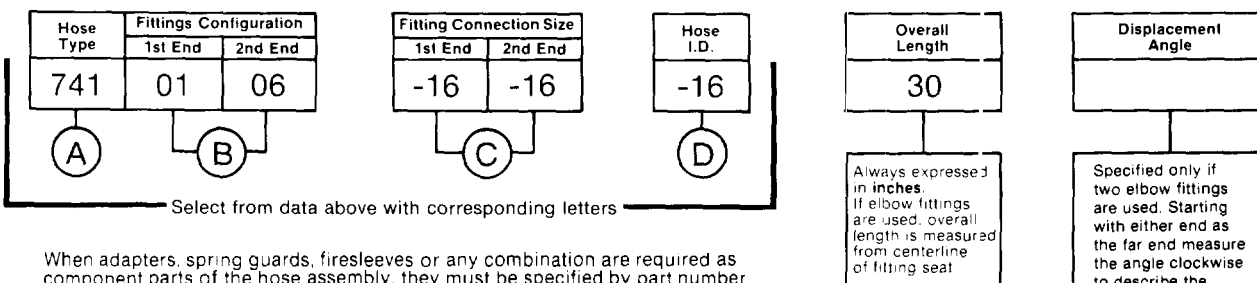
Example: **20174-16-16**



How to Order Hose Assemblies

The following example illustrates how to order a hose assembly, using 1" I.D. 741 hose, with 1" male pipe connection on one end, and 1" JIC 37° Swivel connection on the other end. Overall length is 30"

Example: **7410106-16-16-30"**

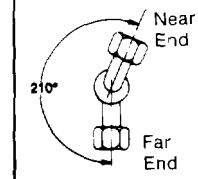


When adapters, spring guards, firesleeves or any combination are required as component parts of the hose assembly, they must be specified by part number

Example: **7410106-16-16-30"** with **74 SG-16** (length) and **0107-12-16**

Typical Basic Assembly Numbers

End Connection #1	End Connection #2	01 Male Pipe	06 SAE (JIC) 37° Swivel	15 SAE Flange Straight	17 SAE Flange 45° Elbow	18 SAE Flange 67 1/2° Elbow
01 - Male Pipe		7410101	7410106	7410115	7410117	7410118
06 - SAE (JIC) 37° Swivel		7410601	7410606	7410615	7410617	7410618
15 - SAE Flange - Straight		7411501	7411506	7411515	7411517	7411518



741 No-Skive Hose

Hose cover does not have to be removed to attach No-Skive fittings.

Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
741-12	3/4	1.25	5,000	20,000	11
741-16	1	1.56	4,000	16,000	14
741-20	1 1/4	2.00	3,000	12,000	18
741-24	1 1/2	2.25	2,500	10,000	22



Construction: Synthetic rubber tube, reinforcement of 4 spiral wire wraps of heavy steel wire separated by synthetic rubber layers; weather and abrasion resistant synthetic rubber outer cover.

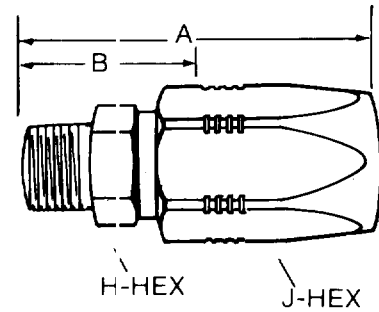
Application: Designed for extreme high pressure hydraulic applications. Passed U.S. Bureau of Mines flame test. (MSHA).

Temperature Range: -40° F. to +200° F. (-40° C to +93° C)

74 Series Fittings used with 741 Hose

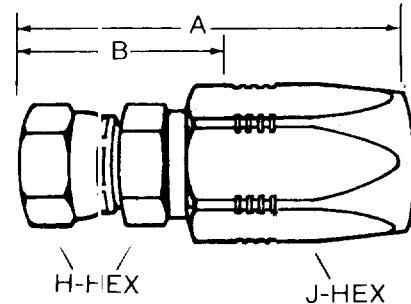
20174 Male Pipe

STEEL Part No.	Hose Size	Thread Size	A	B Cut-off Allow.	H Hex	J Hex
20174-12-12	-12	3/4-14	4.16	2.22	1 1/4	1 5/8
20174-16-16	-16	1 -11 1/2	4.58	2.56	1 1/2	2
20174-20-20	-20	1 1/4-11 1/2	6.44	3.56	1 7/8	2 5/8
20174-24-24	-24	1 1/2-11 1/2	6.75	3.88	2 1/4	2 7/8



20674 SAE (JIC) 37° Swivel

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20674-12-12	-12	3/4	1 1/16-12	4.50	2.55	1 1/4	1 5/8
20674-16-16	-16	1	1 5/16-12	4.88	2.76	1 1/2	2
20674-20-20	-20	1 1/4	1 5/8-12	6.70	3.75	2	2 5/8
20674-24-24	-24	1 1/2	1 7/8-12	7.46	4.34	2 1/4	2 7/8

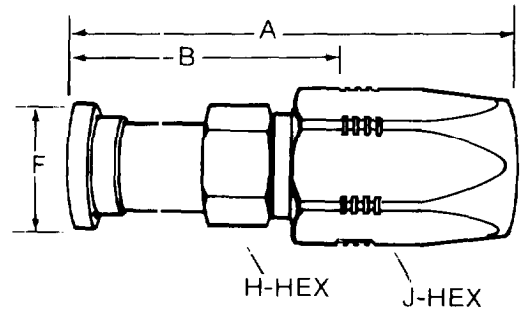


74 Series

74 Series Fittings used with 741 Hose

21574 SAE Flange Head Straight

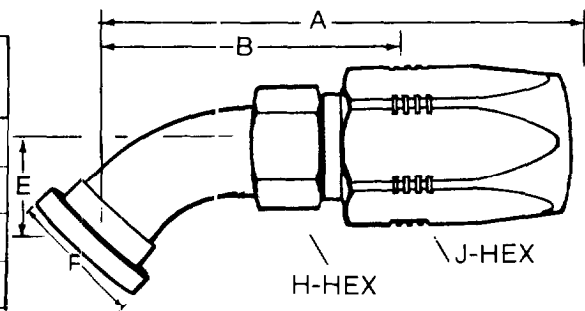
STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	F Flange Dia.	H Hex	J Hex
21574-12-12	-12	3/4	5.28	3.34	1 1/2	1 1/4	1 5/8
21574-16-16	-16	1	5.53	3.50	1 3/4	1 1/2	2
21574-20-20	-20	1 1/4	7.34	4.34	2	1 7/8	2 5/8
21574-24-24	-24	1 1/2	7.75	4.88	2 3/8	2 1/4	2 7/8



Flange Kits listed on page A-114

21774 SAE Flange Head 45° Elbow

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21774-12-12	-12	3/4	5.62	3.69	1.00	1 1/2	1 1/4	1 5/8
21774-16-16	-16	1	5.79	3.76	1.06	1 3/4	1 1/2	2
21774-20-20	-20	1 1/4	7.77	4.77	1.19	2	1 7/8	2 5/8
21774-24-24	-24	1 1/2	8.83	5.96	1.44	2 3/8	2 1/4	2 7/8



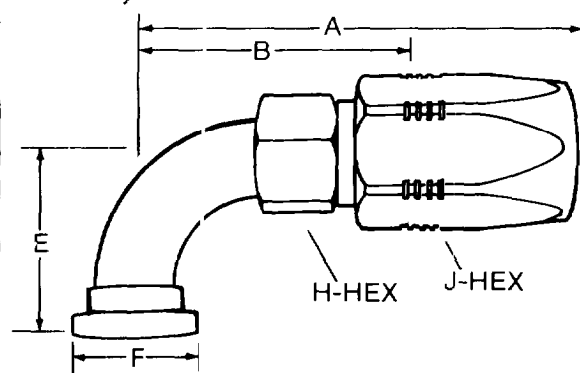
21874 SAE Flange Head 67 1/2° Elbow

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21874-20-20	-20	1 1/4	7.98	4.98	1.94	2	1 7/8	2 5/8

Flange Kits listed on page A-114

21974 SAE Flange Head 90° Elbow

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	H Hex	J Hex
21974-12-12	-12	3/4	5.28	3.34	2.06	1 1/2	1 1/4	1 5/8
21974-16-16	-16	1	5.75	3.72	2.38	1 3/4	1 1/2	2
21974-20-20	-20	1 1/4	7.86	4.86	2.62	2	1 7/8	2 5/8
21974-24-24	-24	1 1/2	8.85	5.98	3.13	2 3/8	2 1/4	2 7/8

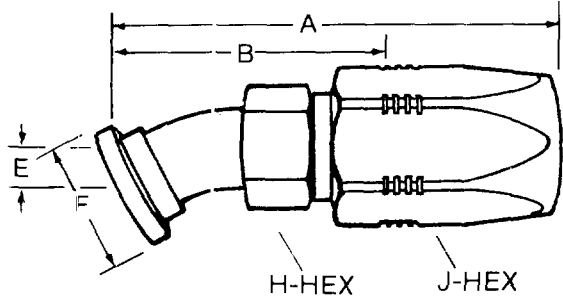


Flange Kits listed on page A-114

74 Series Fittings used with 741 Hose

STEEL Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.	K Hex	J Hex
22674-20-20	-20	1 1/4	7.62	4.62	.72	2	1 7/8	2 5/8
22674-24-24	-24	1 1/2	8.20	5.15	.89	2 3/8	2 1/4	2 7/8

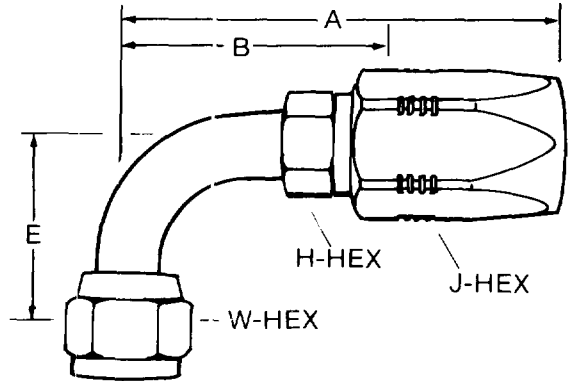
22674
SAE Flange Head 30° Elbow



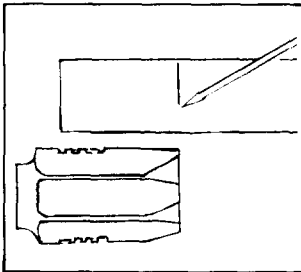
Flange Kits listed on page A-114

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	W Hex
		Size	Thread						
23974-16-16	-16	1	1 5/16-12	5.75	3.72	2.98	1 1/2	2	1 1/2

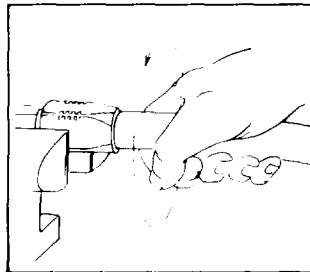
23974
SAE (JIC) 37° Swivel 90° Elbow



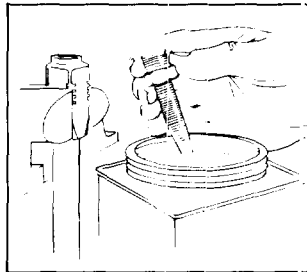
Assembly Instructions - 74 Series



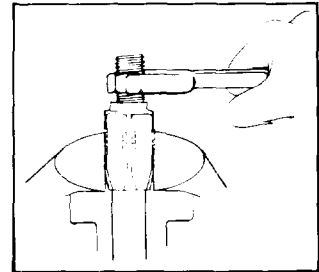
To measure hose entry, lay socket alongside hose end. Line up first notch on the socket with the end of the hose. Mark hose at end of socket. This will be hose entry length.



Place socket in vise as shown. Dip hose in heavy oil. Screw hose counter-clockwise into socket until you reach mark on hose.



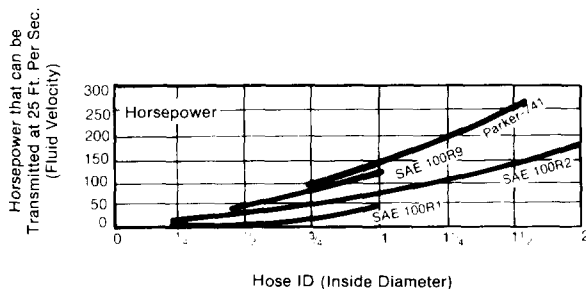
Dip hose end of nipple into Heavy Oil, (NSN 9150-00-186-6681) up to hex.



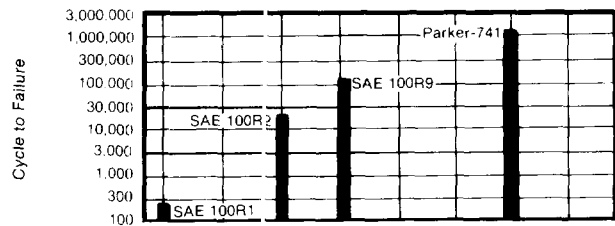
Thread nipple clockwise into socket until nipple hex shoulders against socket.

Spiral Wrapped Hoses Offer Extra Service Life Over Wire-Braided Types

Horsepower Transmission capabilities of Parker 741 Hose vs. other hose types



Service life of 1" I.D. 741 Hose at 3500 PSI operating pressure vs. other hose types.



*(NSN 9150-00-186-6681)

75 Series

Extreme High Pressure SAE 100R10



751 HOSE
Four Spiral
Reinforcement



754 HOSE
For Phosphate
Ester Fluids

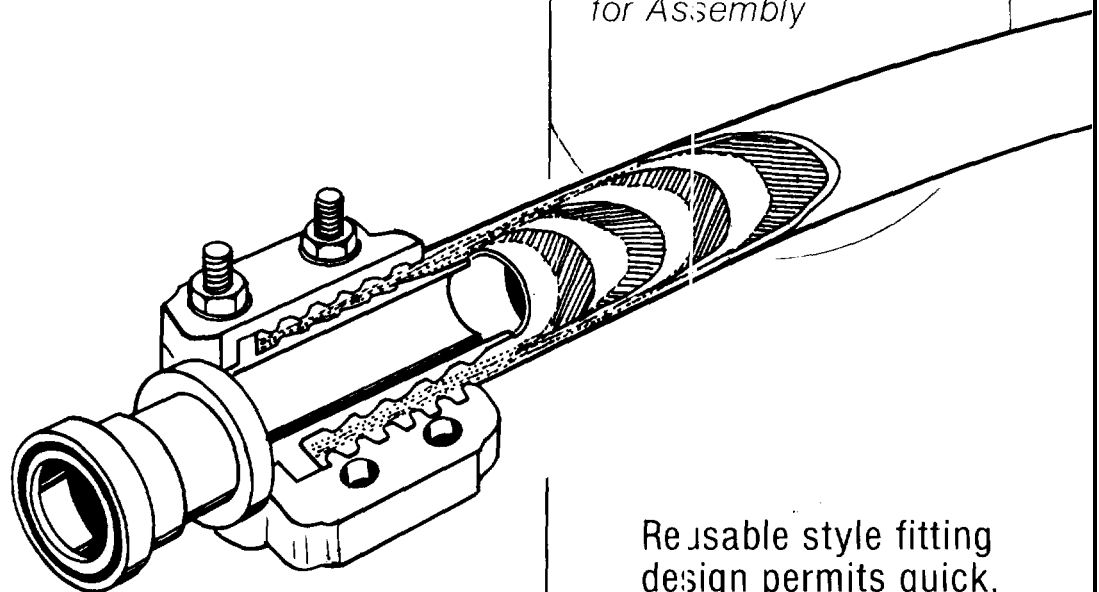
No Skive

- Spiral wrapped hose construction provides longer service life than wire-braided types
- Clamp style fitting does not require removal of outer cover of hose for make-up.
- Unique clamp design - holding ribs give clamp halves full 360° grip on hose - minimizes danger of damaging inner wire reinforcement - eliminates leakage problems at line where clamps mate.
- Positive fitting assembly - no guesswork on bolt torquing. Simply insert nipple, position clamps over hose and tighten bolts until clamp halves mate.

Spiral Wrapped Hose and Clamp - Type Fittings

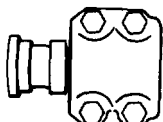
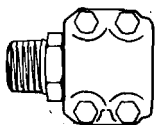
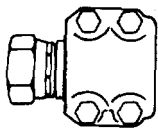
Hose Cover

*Need not be removed
for Assembly*



Reusable style fitting design permits quick, easy field assembly without special tools.

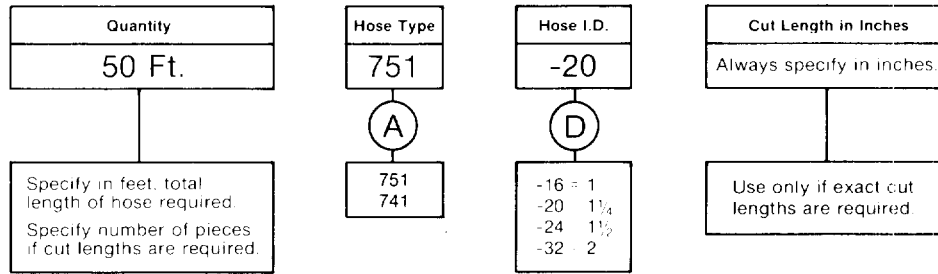
*... Just
Replace
The Hose!*



How to Order Hose Only

When ordering hose, specify complete information as illustrated below.

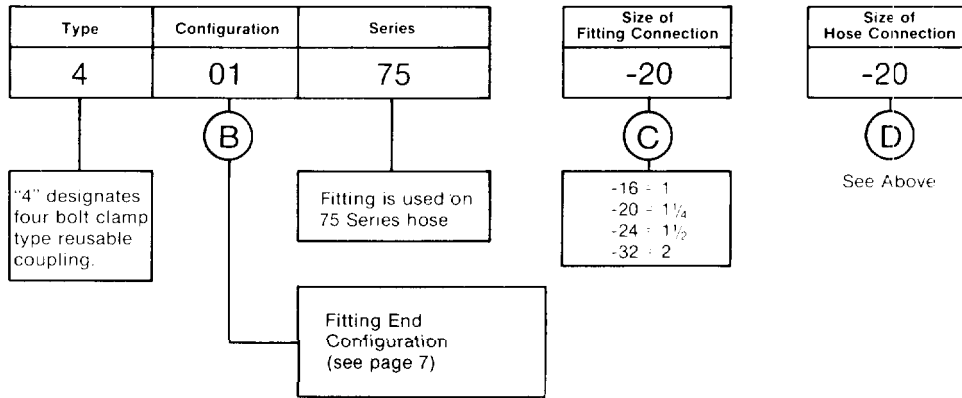
Examples: 50 Ft. 751-20 (bulk hose) 6 pcs. 751-20-120 inches (exact cut lengths)



How to Order Fittings Only

Fittings are ordered by part number as listed in this catalog on pages A - 87 - A - 88 .

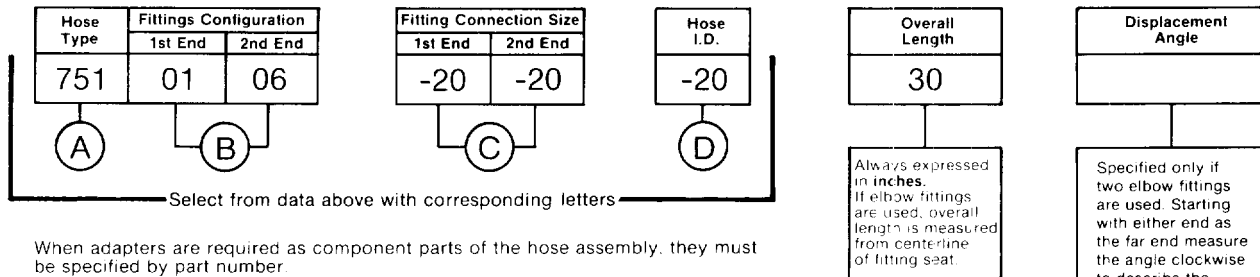
Example: 40175-20-20



How to Order Hose Assemblies

The following example illustrates how to order a hose assembly, using 1 1/4" I.D. 751 hose, with 1 1/4" male pipe connection on the other end. Overall length is 30".

Example: 7510106-20-20-20-30"

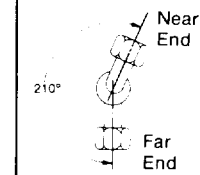


When adapters are required as component parts of the hose assembly, they must be specified by part number.

Example: 7510106-20-20-20-30" with 0107-16-20

Typical Basic Assembly Numbers

End Connection #1	End Connection #2	01 Male Pipe	06 SAE (JIC) 37° Swivel	15 SAE Flange Straight	16 SAE Flange 22 1/2° Elbow	17 SAE Flange 45° Elbow
01 - Male Pipe		7510101	7510106	7510115	7510116	7510117
06 - SAE (JIC) 37° Swivel		7510601	7510606	7510615	7510616	7510617
15 - SAE Flange - Straight		7511501	7511506	7511515	7511516	7511517



75 Series

Hose and Reusable Fittings
Extreme High Pressure - Clamp-Type

751 Hose SAE 100R10

Hose cover does not have to be removed to attach clamp-type fittings.



Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
751-16	1	1.75	4,000	16,000	14
751-20	1¼	2.00	3,000	12,000	18
751-24	1½	2.25	2,500	10,000	22
751-32	2	2.75	2,500	10,000	28

Construction: Synthetic rubber tube; reinforcement of 4 spiral wire wraps of heavy steel wire separated by synthetic rubber layers; weather and abrasion resistant synthetic rubber outer cover.

Application: For extreme high pressure hydraulic applications. On the qualified product list of military specification MIL-H-52471. Passed U.S. Bureau of Mines Flame Test (MSHA).

Temperature Range: -40° F. to +200° F. (-40° C to +93° C)

754 Hose SAE 100R10 Type

Hose cover does not have to be removed to attach clamp-type fittings.



Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
754-16	1	1.75	4,000	16,000	14
754-20	1¼	2.00	3,000	12,000	18
754-24	1½	2.25	2,500	10,000	22
754-32	2	2.75	2,500	10,000	28

Construction: Synthetic rubber tube; reinforcement of 4 spiral wire wraps of heavy steel wire separated by synthetic rubber layers; weather and abrasion resistant synthetic rubber outer cover. Green cover for identification.

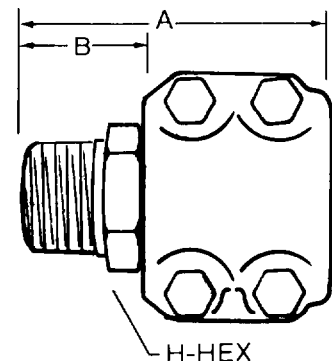
Application: For extreme high pressure hydraulic applications with phosphate ester base fire-resistant hydraulic fluids.

Temperature Range: -40° F. to +200° F. (-40° C to +93° C)

75 Series Fittings used with 751, 754 Hose

40175 Male Pipe

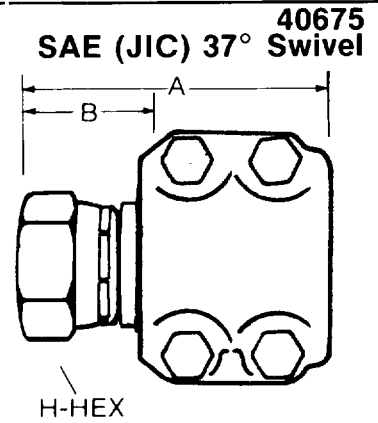
Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex
40175-16-16	-16	1 -11½	3.84	1.82	1½
40175-20-20	-20	1¼-11½	4.40	2.19	1⅞
40175-24-24	-24	1½-11½	5.49	2.78	2⅛
40175-32-32	-32	2 -11½	6.68	3.25	2½



Clamp dimensions - see page A-88.

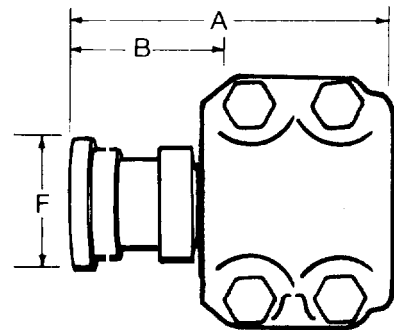
75 Series Fittings used with 751, 754 Hose

Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex
		Size	Thread			
40675-16-16	-16	1	1 $\frac{5}{16}$ -12	3.79	1.77	1 $\frac{1}{2}$
40675-20-20	-20	1 $\frac{1}{4}$	1 $\frac{5}{8}$ -12	4.27	2.06	2
40675-24-24	-24	1 $\frac{1}{2}$	1 $\frac{7}{8}$ -12	4.89	2.18	2 $\frac{1}{4}$
40675-32-32	-32	2	2 $\frac{1}{2}$ -12	6.53	2.38	2 $\frac{7}{8}$



Part No. No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	F Flange Dia.
41575-16-16	-16	1	4.00	2.00	1 $\frac{3}{4}$
41575-20-20	-20	1 $\frac{1}{4}$	4.54	2.35	2
41575-24-20	-20	1 $\frac{1}{2}$	4.56	2.37	2 $\frac{3}{8}$
41575-24-24	-24	1 $\frac{1}{2}$	5.10	2.41	2 $\frac{3}{8}$
41575-32-32	-32	2	6.16	2.75	2 $\frac{13}{16}$

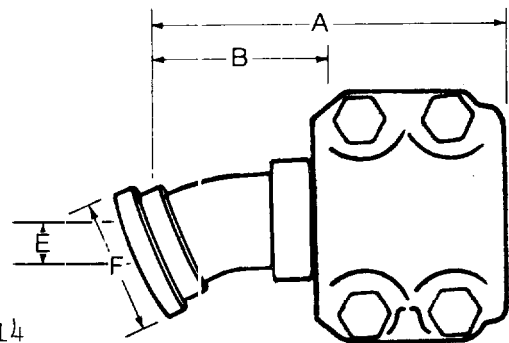
41575
SAE Flange Head Straight



Flange kits listed on page A-114
Clamp dimensions - See page A-88

Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.
41675-16-16	-16	1	4.61	2.60	.44	1 $\frac{3}{4}$
41675-20-20	-20	1 $\frac{1}{4}$	5.24	3.03	.50	2
41675-24-20	-20	1 $\frac{1}{2}$	5.25	3.04	.51	2 $\frac{3}{8}$
41675-24-24	-24	1 $\frac{1}{2}$	6.30	3.59	.62	2 $\frac{3}{8}$
41675-32-32	-32	2	8.20	4.77	.88	2 $\frac{13}{16}$

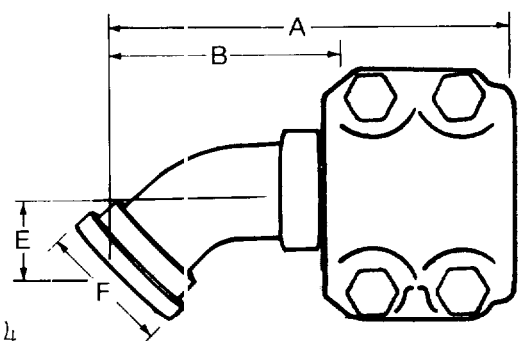
41675
SAE Flange Head 22 $\frac{1}{2}$ ° Elbow



Flange Kits listed on page A-114
Clamp dimensions - See page A-88

Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.
41775-16-16	-16	1	4.92	2.91	1.06	1 $\frac{3}{4}$
41775-20-20	-20	1 $\frac{1}{4}$	5.62	3.41	1.19	2
41775-24-20	-20	1 $\frac{1}{2}$	5.73	3.52	1.30	2 $\frac{3}{8}$
41775-24-24	-24	1 $\frac{1}{2}$	6.77	4.06	1.44	2 $\frac{3}{8}$
41775-32-32	-32	2	8.74	5.31	2.03	2 $\frac{13}{16}$

41775
SAE Flange Head 45° Elbow



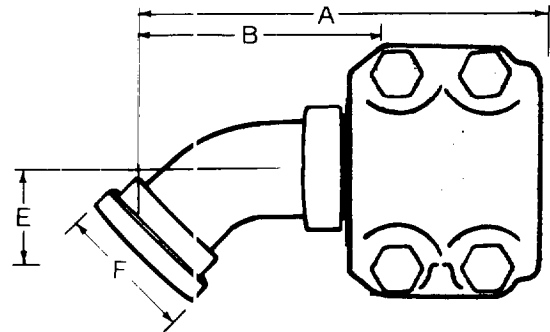
Flange Kits listed on page A-114
Clamp dimensions - See page A-88

75 Series

75 Series Fittings used with 751, 754 Hose

Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia
41875-16-16	-16	1	5.04	3.03	1.75	1 $\frac{3}{4}$
41875-20-20	-20	1 $\frac{1}{4}$	5.83	3.62	1.94	2
41875-24-24	-24	1 $\frac{1}{2}$	6.93	4.22	2.31	2 $\frac{3}{8}$
41875-32-32	-32	2	8.47	5.53	3.31	2 $\frac{13}{16}$

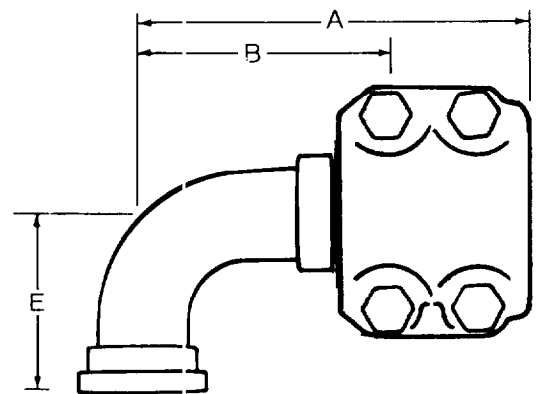
41875 SAE Flange Head 67 $\frac{1}{2}$ ° Elbow



Flange Kits listed on page A-114
Clamp dimensions - See page A-88.

Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.
41975-16-16	-16	1	4.87	2.86	2.38	1 $\frac{3}{4}$
41975-20-20	-20	1 $\frac{1}{4}$	5.71	3.50	2.62	2
41975-24-20	-20	1 $\frac{1}{2}$	5.71	3.50	2.64	2 $\frac{3}{8}$
41975-24-24	-24	1 $\frac{1}{2}$	6.78	4.08	3.15	2 $\frac{3}{8}$
41975-32-32	-32	2	8.68	5.25	4.50	2 $\frac{13}{16}$

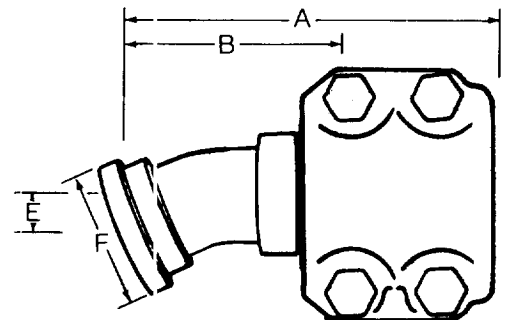
41975 SAE Flange Head 90° Elbow



Flange Kits listed on Page A-114
Clamp dimensions - See page A-88.

Part No.	Hose Size	SAE Flange Size	A	B Cut-off Allow.	E	F Flange Dia.
42675-16-16	-16	1	4.77	2.75	.62	1 $\frac{3}{4}$
42675-20-20	-20	1 $\frac{1}{4}$	5.46	3.25	.72	2
42675-24-24	-24	1 $\frac{1}{2}$	6.59	3.88	.88	2 $\frac{3}{8}$
42675-32-32	-32	2	8.47	5.04	1.25	2 $\frac{13}{16}$

42675 SAE Flange Head 30° Elbow

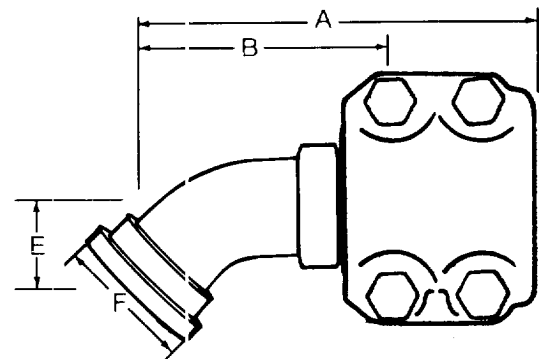


Flange Kits listed on Page A-114
Clamp dimensions - See page A-88.

75 Series Fittings used with 751, 754 Hose

42775
SAE Flange Head 60° Elbow

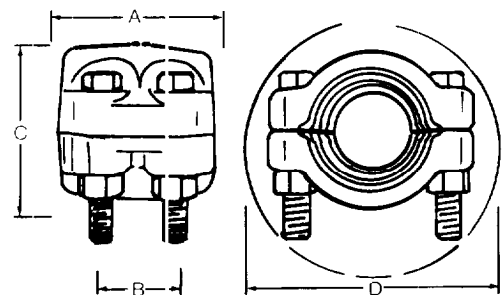
Part No.	Hose Size	SAE Flange Size	A	B	Cut-off Allow.	E	F	Flange Dia.
42775-16-16	-16	1	5.08	3.06	1.50	1 3/4		
42775-20-20	-20	1 1/4	5.80	3.59	1.69	2		
42775-24-24	-24	1 1/2	6.96	4.25	2.03	2 3/8		
42775-32-32	-32	2	8.98	5.55	2.88	2 13/16		



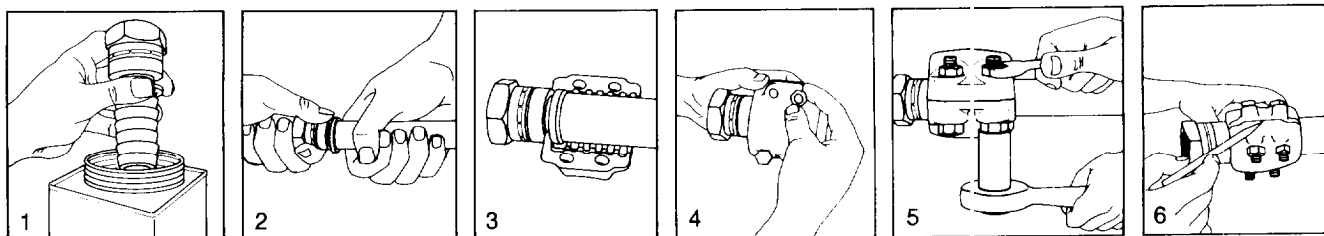
Flange Kits listed on Page A-114
Clamp dimensions - See below.

40075
4 Bolt Clamp

Part No.	Hose Size	A	B	C	D	Bolt		Nut Hex Size
						Thread Size	Length	
40075-16	-16	2.44	1.19	2.06	3.62	3/8-24	2.00	9/16
40075-20	-20	2.67	1.25	2.50	4.62	7/16-20	2.50	1 1/16
40075-24	-24	3.22	1.25	2.94	4.88	1/2-20	3.00	3/4
40075-32	-32	3.94	1.75	3.38	6.00	9/16-18	3.25	7/8



Assembly Instructions - 75 Series



1. Lubricate hose I.D. and nipple.
2. Insert nipple into hose until bottomed on nipple channel.
3. Place clamp halves over hose with clamp front collar in nipple channel.
4. While holding clamp halves in place, drop the 4 bolts through holes in clamp halves. Turn nuts finger tight.
5. Tighten nuts down evenly with box or open-end wrench. An impact tool with thin wall wrench sockets may also be used. Running one nut all the way down without partly tightening the others will distort the clamps and may break the bolt.
6. Tighten nuts until clamp halves are flush (in contact with each other with no space between the halves). Assembly is complete.

CAUTION :

Special instruction for 754 Hose: Do not allow tube to contact any petroleum base fluids.
Use liquid soap as hose lubricant.

76 Series

Super High Pressure SAE 100R11

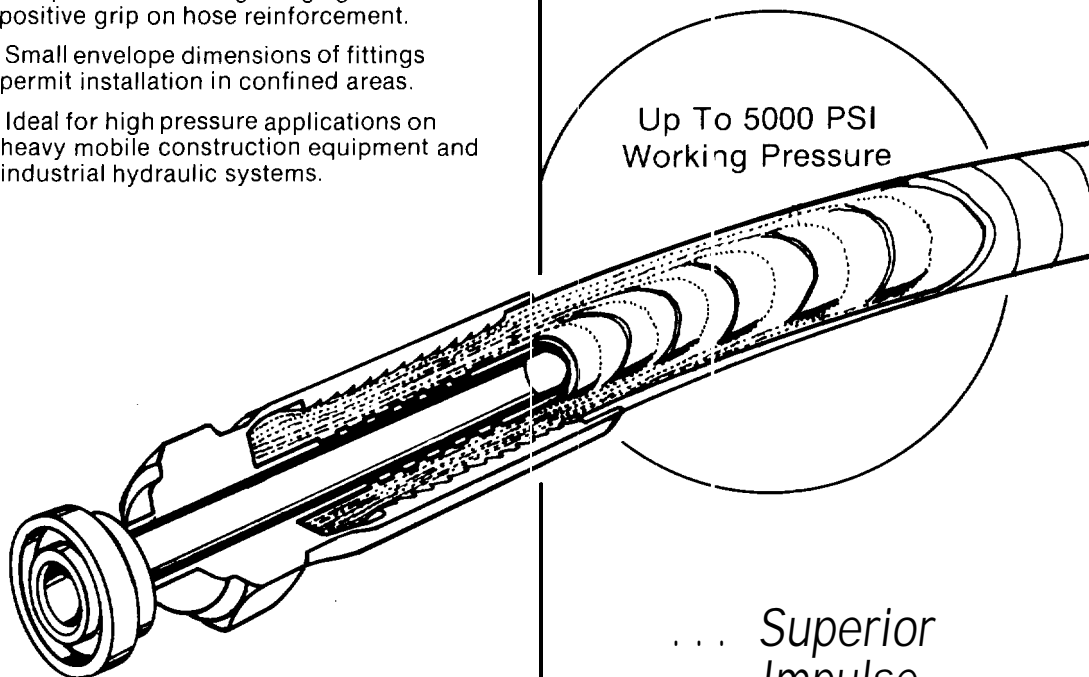


761 HOSE
Six Spiral
Reinforcement

Hose Assemblies

- Spiral wire hose construction consisting of six wrapped layers provides long service life.
- Unique internal fitting design gives positive grip on hose reinforcement.
- Small envelope dimensions of fittings permit installation in confined areas.
- Ideal for high pressure applications on heavy mobile construction equipment and industrial hydraulic systems.

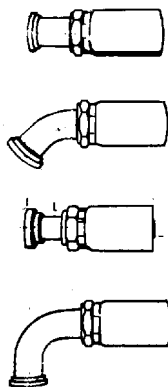
Permanent Hose Assemblies



Up To 5000 PSI
Working Pressure

... Superior
Impulse
Life!

- Flangehead fittings available in two styles.
 - Code 61 Standard Pressure (3000-5000 PSI)
 - Code 62 High Pressure (6000 PSI)



How to Order 76 Series Permanent Hose Assemblies

The following example illustrates how to order a Permanent hose assembly, using 1 1/4' I.D. 761 hose, with 1 1/4" SAE High Pressure (Code 62) Flange Head Straight on one end, 1 1/4" SAE High Pressure (Code 62) Flange Head 90° Elbow on the other end. Overall length is 30".

Example: K7616A6N-20-20-20-30"

Hose Type	Fittings Configuration	
	1st End	2nd End
K761	6A	6N

Fittings Connection Size	
1st End	2nd End
-20	-20

Hose I.D.
-20

Overall Length
30

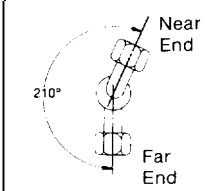
Displacement Angle

6A - SAE Flange Head Straight - Code 62
 6F - SAE Flange Head 45° Elbow - Code 62
 6N - SAE Flange Head 90° Elbow - Code 62
 15 - SAE Flange Head Straight - Code 61
 17 - SAE Flange Head 45° Elbow - Code 61
 19 - SAE Flange Head 90° Elbow - Code 61

-16 = 1
 -20 = 1 1/4
 -24 = 1 1/2
 -32 = 2

Always expressed in inches. If elbow fittings are used, overall length is measured from centerline of fitting seat.

Specified only if two elbow fittings are used. Starting with either end as the far end measure the angle clockwise to describe the displacement of the near end.



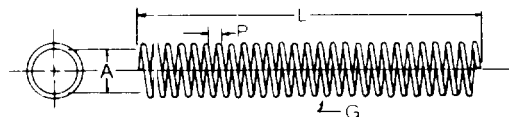
When spring guards or armor guards are required as component parts of the hose assembly, they must be specified by part number:

Examples:
 K7616A6N-20-20-20-30" with a 24" long spring guard becomes:
 K7616A6N-20-20-20-30" with 752027-12-24"

76 Series Accessories

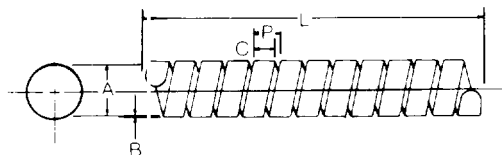
Spring Guard

Hose Size	Spring Guard Part No.	I.D. (A)	Gage (G)	Pitch (P)
-16	752027-11	2.112	.120	1 1/32
-20	752027-12	2.362	.135	1 3/32
-24	752027-13	2.594	.135	1 3/32
-32	752027-15	3.188	.135	1 3/32



Armor Guards

Hose Size	Armor Guard Part No.	I.D. (A)	Gage (B)	Width (C)	Pitch (P)
-16	752028-10	1.969	.042	5/8	1 3/16
-20	752028-12	2.224	.049	7/8	1 1/8
-24	752028-14	2.469	.049	7/8	1 1/8
-32	752028-16	3.032	.049	7/8	1 1/8

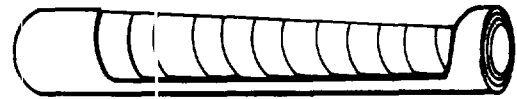


spring guards and armor guards prolong the life of hose lines that are exposed to rugged operating conditions. They distribute bending radii to avoid kink in hose lines and protect hose from abrasion and deep cuts. Guards are constructed of steel wire and are plated to resist rust.

76 Series

Permanent Hose Assemblies

761 Hose SAE 100R11



Construction: Seamless, oil resistant, synthetic rubber inner tube; reinforcement of 6 spiral wire wraps of high-tensile steel wire separated by synthetic rubber layers; and a weather, oil and abrasion resistant synthetic rubber cover.

Application: Super high pressure hydraulic service with petroleum or water base fluids. Passed U.S. Bureau of Mines Flame Test (MSHA).

Temperature Range: -40° to +250°F. (-40° to +121°C)

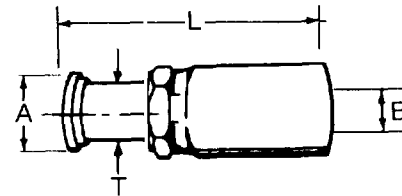
Hose Part No.	Hose I.D.	Hose O.D.	Minimum Burst Press. PSI	Recommended Working Press. PSI	Minimum Bend Radius (Inches)
761-16	1"	1.953" Max.	20,000	5,000	14.0
761-20	1 1/4"	2.219" Max.	14,000	3,500	18.0
761-24	1 1/2"	2.469" Max.	12,000	3,000	22.0
761-32	2"	3.032" Max.	12,000	3,000	28.0

76 Series Fittings Used with 76 Series Hose Assemblies

15

SAE Flange Head Straight Code 61 - Standard Pressure

End No.	Flange Dia. (A)		Hose Size		Length (L)	Tube O.D. (T)	Min. Bore (B)
15	1.75"	-16	1"	-16	6.03"	1 1/8"	13/16"
15	2.00"	-20	1"	-16	6.03"	1 1/8"	13/16"
15	2.00"	-20	1 1/4"	-20	6.56"	1 3/8"	1"
15	2.38"	-24	1 1/4"	-20	6.57"	1 3/8"	1"
15	2.38"	-24	1 1/2"	-24	7.45"	1 5/8"	1 1/4"
15	2.81"	-32	2"	-32	9.10"	2 1/8"	1 11/16"

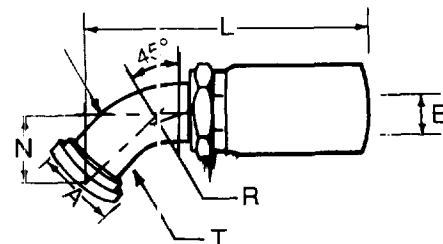


Flange kits listed on page A-113, A-114.

17

SAE Flange Head 45° Elbow Code 61 - Standard Pressure

End No.	Flange Dia. (A)		Hose Size		Length (L)	Drop (N)	Tube O.D. (T)	Min. Bore (B)	Radius (R)
17	1.75"	-16	1"	-16	6.10"	1.08"	1 1/8"	13/16"	1.62"
17	2.00"	-20	1"	-16	6.10"	1.08"	1 1/8"	13/16"	1.62"
17	2.00"	-20	1 1/4"	-20	6.92"	1.21"	1 3/8"	1"	1.75"
17	2.38"	-24	1 1/4"	-20	6.93"	1.22"	1 3/8"	1"	1.75"
17	2.38"	-24	1 1/2"	-24	8.10"	1.48"	1 5/8"	1 1/4"	2.00"
17	2.81"	-32	2"	-32	10.32"	2.05"	2 1/8"	1 11/16"	2.75"

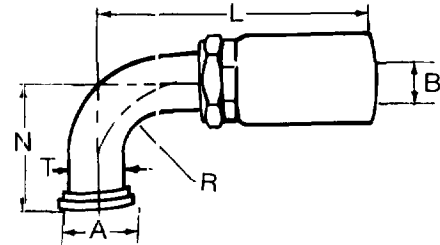


Flange kits listed on page A-113, A-114.

76 Series Fittings used with 76 Series Hose Assemblies

End No.	Flange Dia. (A)		Hose Size		Length (L)	Drop (N)	Tube O.D. (T)	Min. Bore (B)	Radius (R)
19	1.75"	-16	1"	-16	6.03"	2.41"	1 1/8"	13/16"	1.62"
19	2.00"	-20	1"	-16	6.03"	2.41"	1 1/8"	13/16"	1.62"
19	2.00"	-20	1 1/4"	-20	6.99"	2.65"	1 3/8"	1"	1.75"
19	2.38"	-24	1 1/4"	-20	6.99"	2.66"	1 3/8"	1"	1.75"
19	2.38"	-24	1 1/2"	-24	8.07"	3.18"	1 5/8"	1 1/4"	2.00"
19	2.81"	-32	2"	-32	10.24"	4.53"	2 1/8"	1 11/16"	2.75"

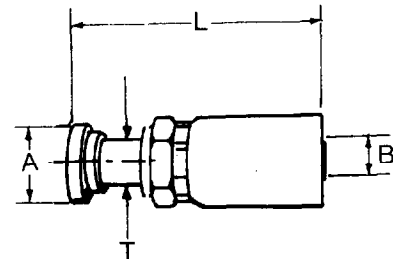
19
SAE Flange Head 90° Elbow
Code 61 - Standard Pressure



Flange kits listed on page A-113, A-114.

End No.	Flange Dia. (A)		Hose Size		Length (L)	Tube O.D. (T)	Min. Bore (B)
6A	1.88"	-16	1"	-16	6.02"	1 1/8"	13/16"
6A	2.12"	-20	1"	-16	6.09"	1 1/8"	13/16"
6A	2.12"	-20	1 1/4"	-20	6.62"	1 3/8"	1"
6A	2.50"	-24	1 1/4"	-20	6.55"	1 3/8"	1"
6A	2.50"	-24	1 1/2"	-24	7.43"	1 5/8"	1 1/4"
6A	3.12"	-32	2"	-32	9.12"	2 1/8"	1 11/16"

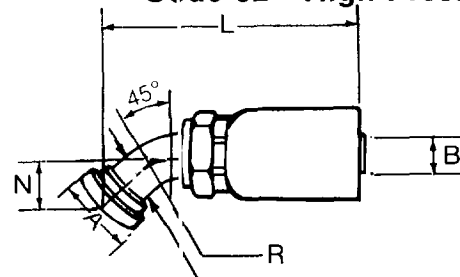
6A
SAE Flange Head Straight
Code 62 - High Pressure



Flange kits listed on page A-113, A-114.

End No.	Flange Dia. (A)		Hose Size		Length (L)	Drop (N)	Tube O.D. (T)	Min. Bore (B)	Radius (R)
6F	1.88"	-16	1"	-16	6.10"	1.08"	1 1/8"	13/16"	1.62"
6F	2.12"	-20	1"	-16	6.15"	1.12"	1 1/8"	13/16"	1.62"
6F	2.12"	-20	1 1/4"	-20	6.96"	1.25"	1 3/8"	1"	1.75"
6F	2.50"	-24	1 1/4"	-20	6.92"	1.21"	1 3/8"	1"	1.75"
6F	2.50"	-24	1 1/2"	-24	8.08"	1.46"	1 5/8"	1 1/4"	2.00"
6F	3.12"	-32	2"	-32	10.33"	2.06"	2 1/8"	1 11/16"	2.75"

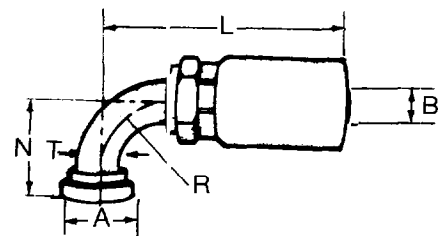
6F
SAE Flange Head 45° Elbow
Code 62 - High Pressure



Flange kits listed on page A-113, A-114.

End No.	Flange Dia. (A)		Hose Size		Length (L)	Drop (N)	Tube O.D. (T)	Min. Bore (B)	Radius (R)
6N	1.88"	-16	1"	-16	6.03"	2.41"	1 1/8"	13/16"	1.62"
6N	2.12"	-20	1"	-16	6.03"	2.47"	1 1/8"	13/16"	1.62"
6N	2.12"	-20	1 1/4"	-20	6.99"	2.71"	1 3/8"	1"	1.75"
6N	2.50"	-24	1 1/4"	-20	6.99"	2.65"	1 3/8"	1"	1.75"
6N	2.50"	-24	1 1/2"	-24	8.07"	3.16"	1 5/8"	1 1/4"	2.00"
6N	3.12"	-32	2"	-32	10.24"	4.54"	2 1/8"	1 11/16"	2.75"

6N
SAE Flange Head 90° Elbow
Code 62 - High Pressure



Flange kits listed on page A-113, A-114.

90 Series

Hose of Teflon and Fitting



909 HOSE
Bronze Braid Cover

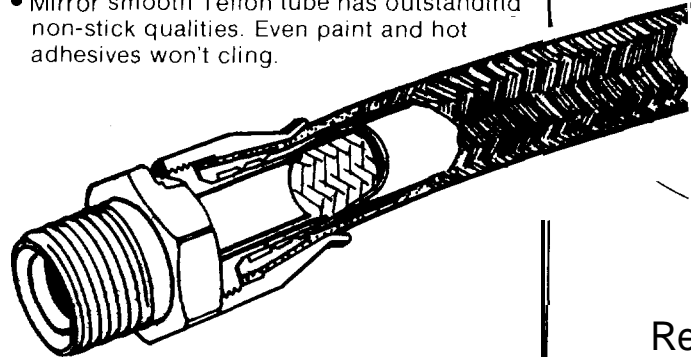


919 HOSE
Stainless Steel
Braid Cover

Hose and Fitting

- Teflon is practically impervious to moisture, making it ideal for pneumatic systems where dew point must be kept low.
- Unharmed by practically all chemicals, except molten alkali metals (e.g. sodium and potassium) and fluorochemicals (e.g. chlorine trifluoride, oxygen difluoride and fluorine gas).
- Withstands cold and heat from -100° F to +450° F. Keeps its flexibility at low temperatures. High fluid and ambient temperatures do not affect its structure or strength.
- Mirror smooth Teflon tube has outstanding non-stick qualities. Even paint and hot adhesives won't cling.

**Hose of Teflon
Overcomes Fluid and Air
Handling Problems
That Cause Other Hoses to Fail**



Reusable style fitting design permits quick, easy field assembly without special tools.

- Pressure drop of hose remains low because Teflon has very low coefficient of friction - reduces deposit build up.
- Impervious to weather or chemical atmospheres. The Teflon tube and stainless steel or bronze braid cover offer protection against almost any environment.
- Two styles of fittings available - reusable or permanent.

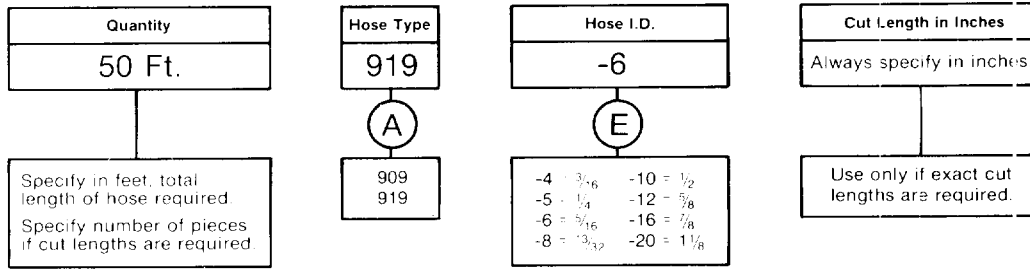
... *Just
Replace
The Hose!*



How to Order Hose Only

When ordering hose, specify complete information as illustrated below.

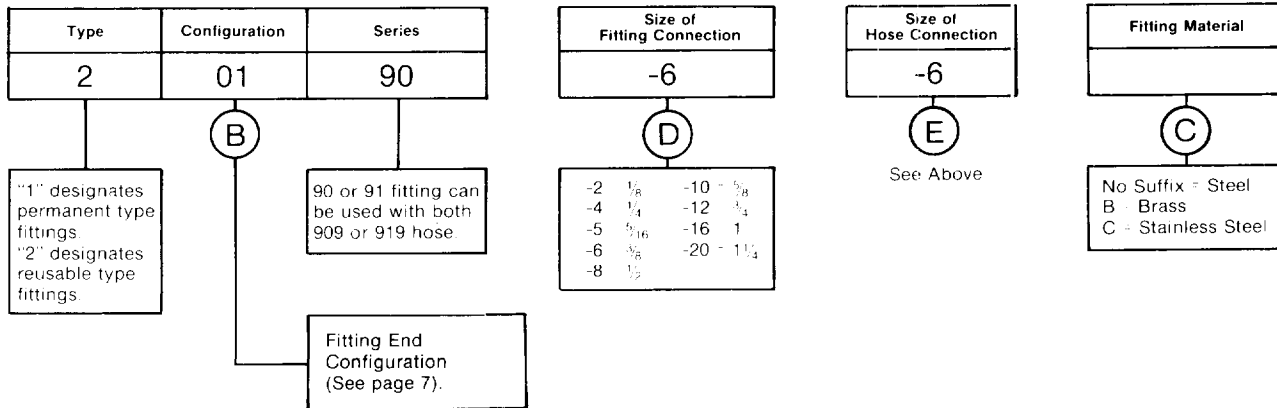
Examples: 50 Ft. 919-6 (bulk hose) 6 pcs. 919-6-120 inches (exact cut lengths)



How to Order Fittings Only

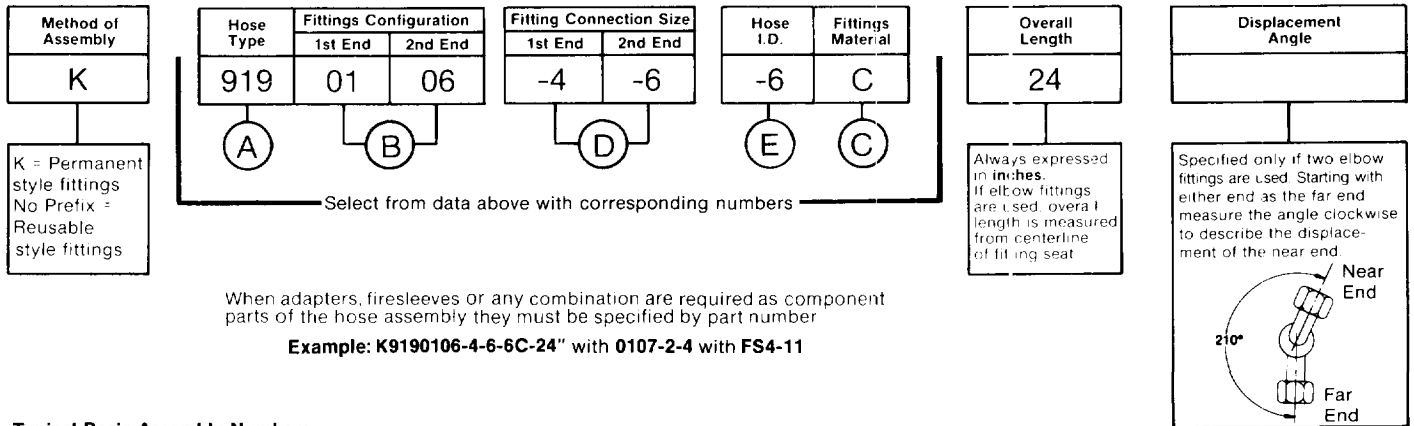
Fittings are ordered by part number as listed in this catalog on pages A-95 - A-102.

Example: 20190-6-6



How to Order Hose Assemblies

The following example illustrates how to order a hose assembly using 5/16" I.D. 919 Stainless Steel braid hose, with 1/4" male pipe connection on one end, 3/8" SAE (JIC) 37° Swivel connection on the other end. Fittings are permanent, Stainless Steel. Overall length is 24". Example: **K9190106-4-6-6C-24"**



Typical Basic Assembly Numbers

End Connection #1	End Connection #2	01 Male Pipe	06 SAE (JIC) 37° Swivel	08 SAE 45° Swivel	End Connection #1	End Connection #2	01 Male Pipe	06 SAE (JIC) 37° Swivel	08 SAE 45° Swivel
Brass — Reusable Fittings (909 hose)					Stainless Steel — Permanent Fittings (919 hose)				
01 - Male Pipe		9090101B	9090106B	9090108B	01 - Male Pipe		K9190101C	K9190106C	K9190108C
06-SAE (JIC) 37° Swivel		9090601B	9090606B	9090608B	06-SAE (JIC) 37° Swivel		K9190601C	K9190606C	K9190608C

90 Series

Part No.	Hose I.D.	Hose O.D.	*Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
909-4	3/16	5/16	1,000	4,000	2
909-5	1/4	3/8	750	3,000	3
909-6	5/16	7/16	625	2,500	4
909-8	13/32	17/32	500	2,000	5
909-10	1/2	5/8	425	1,700	6 1/2
909-12	5/8	3/4	300	1,200	7 1/2
909-16	7/8	1 1/32	200	800	9
909-20	1 1/8	1 9/32	175	700	16

*Steam service 200 psi (+388°F).

909 Hose of Teflon® Bronze Wire Braid



Construction: Inner tube of extruded Teflon with bronze single wire braid outer cover.

Application: Medium pressure service up to 1000 psi (-100°F. to +450°F.).

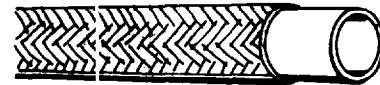
Steam Service: 200 psi (+388°F.)

Vacuum Service: 28 inches of Mercury sizes -4 through -12. 12 inches of Mercury sizes -16 and -20.

Part No.	Hose I.D.	Hose O.D.	*Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
919-4	3/16	5/16	1,500	10,000	2
919-5	1/4	3/8	1,500	9,000	3
919-6	5/16	7/16	1,500	8,000	4
919-8	13/32	17/32	1,000	6,000	5
919-10	1/2	5/8	800	6,000	6 1/2
919-12	5/8	3/4	800	5,000	7 1/2
919-16	7/8	1 1/32	800	3,500	9
919-20	1 1/8	1 9/32	600	2,800	16

* Steam service 200 psi (+388°F).

919 Hose of Teflon® Stainless Steel Wire Braid



Construction: Inner tube of extruded Teflon with 300 series stainless steel single wire braid outer cover.

Application: Medium pressure service up to 1500 psi (-100°F. to +450°F.)

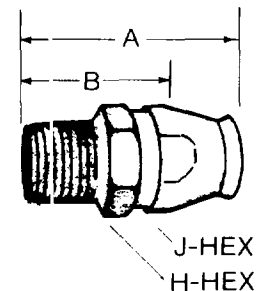
Vacuum Service: 28 inches of Mercury sizes -4 through -12. 12 inches of Mercury sizes -16 and 20.

90 Series Reusable Fittings used with 909, 919 Hose

Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	J Hex
20190-2-4	-4	1/8-27	1.39	.88	9/16	9/16
20190-4-4	-4	1/4-18	1.58	1.06	9/16	9/16
20190-4-6	-6	1/4-18	1.66	1.11	1 1/16	1 1/16
20190-6-6	-6	3/8-18	1.66	1.11	1 1/16	1 1/16
20190-6-8	-8	3/8-18	1.79	1.14	7/8	7/8
20190-8-10	-10	1/2-14	2.13	1.44	1	1
20190-12-12	-12	3/4-14	2.26	1.60	1 1/8	1 1/8
20190-16-16	-16	1 -11 1/2	2.48	1.84	1 3/8	1 3/8
20190-20-20	-20	1 1/4-11 1/2	2.83	2.17	1 3/4	1 3/4

Reusable fittings licensed by Aeroquip under patent numbers 2833567 and 3044163.

20190 Male Pipe



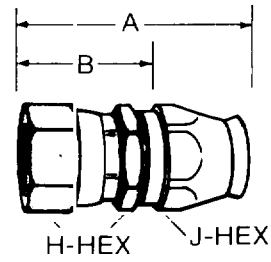
90 Series Reusable Fittings used with 909, 919 Hose

*Part No.	** Stainless STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
			Size	Thread				
20690-4-4	20690-4-4C	-4	1/4	7/16-20	1.58	1.11	9/16	9/16
20690-5-5	20690-5-5C	-5	5/16	1/2-20	1.68	1.15	5/8	5/8
20690-6-6	20690-6-6C	-6	3/8	9/16-18	1.74	1.22	11/16	11/16
20690-8-8	20690-8-8C	-8	1/2	3/4-16	1.98	1.37	7/8	7/8
20690-10-10	20690-10-10C	-10	5/8	7/8-14	2.22	1.53	1	1
20690-12-12	20690-12-12C	-12	3/4	1 1/16-12	2.33	1.68	1 1/4	1 1/8
20690-16-16	20690-16-16C	-16	1	1 5/16-12	2.52	1.91	1 1/2	1 3/8

*Brass nipple, steel nut and socket.

**303 Stainless nipple, nut and socket.

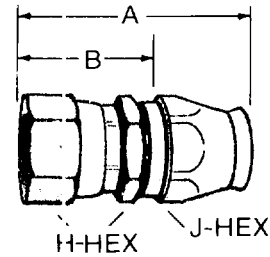
20690
SAE (JIC) 37° Swivel



* Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
20890-6-6	-6	3/8	5/8 -18	1.77	1.27	3/4	1 1/16
20890-12-12	-12	3/4	1 1/16-12	2.33	1.68	1 1/4	1 1/8

*Brass nipple, steel nut and socket.

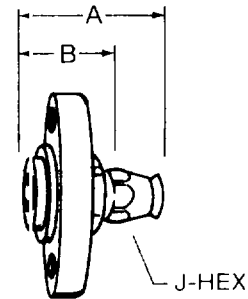
20890
SAE 45° Swivel



*Part No.	Hose Size	Flange Size	A	B Cut-off Allow.	J Hex
21590-6-6	-6	3/8	1.78	1.26	1 1/16
21590-12-12	-12	3/4	2.07	1.42	1 1/8

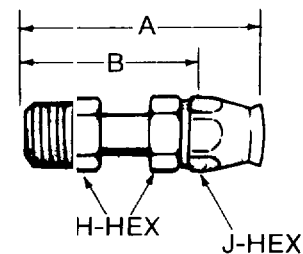
*Brass nipple, steel nut and socket.

21590
Laundry Flange Fitting



22890
SAE Male Inverted Swivel — Straight

Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex
		Size	Thread				
22890-4-4	-4	1/4	7/16-24	2.16	1.70	7/16	9/16
22890-5-5	-5	5/16	1/2-20	2.21	1.70	1/2	5/8
22890-6-6	-6	3/8	5/8-18	2.22	1.70	5/8	1 1/16
22890-8-8	-8	1/2	3/4-18	2.34	1.71	3/4	7/8



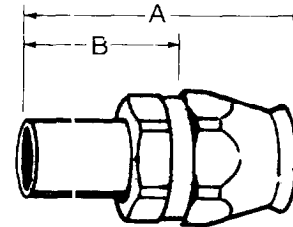
90 Series

90 Series Reusable Fittings used with 909, 919 Hose

23490 Straight Tube

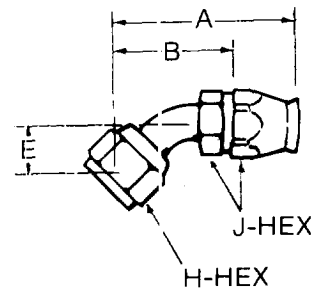
(Use with HAB nut and sleeve
Page A-98)

Part No.	Hose Size	Tube Size	A	B Cut-off Allow.	J Hex
23490-8-10	-10	1/2	3.18	2.5	1
23490-10-10	-10	5/8	3.32	2.64	1
23490-12-12	-12	3/4	3.74	3.08	1 1/8



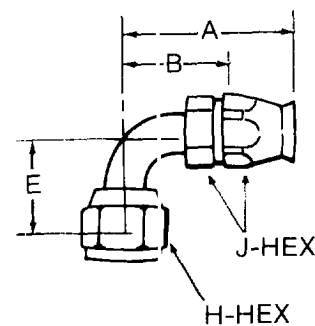
23790 SAE (JIC) 37° Swivel 45° Elbow

Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex
		Size	Thread					
23790-8-8	-8	1/2	3/4-16	2.20	1.57	.55	7/8	7/8



23990 SAE (JIC) 37° Swivel 90° Elbow

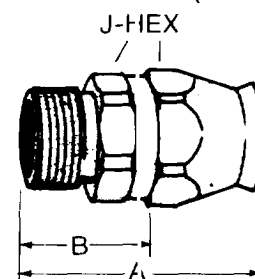
Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex
		Size	Thread					
23990-4-4	-4	1/4	7/16-20	1.44	.98	.68	9/16	9/16
23990-5-5	-5	5/16	1/2-20	1.55	1.04	.77	5/8	5/8
23990-8-8	-8	1/2	3/4-16	1.97	1.34	1.09	7/8	7/8



26190 SAE Compression Air Brake

(Use with HAB nut and sleeve
Page A-98)

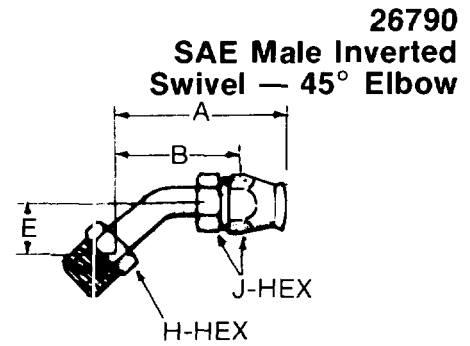
*Part No.	Hose Size	Tube		A	B Cut-off Allow.	J Hex
		Size	Thread			
26190-8-10	-10	1/2	1 1/16-20	1.86	1.18	1
26190-10-10	-10	5/8	1 3/16-18	1.92	1.24	1
26190-12-12	-12	3/4	1-18	2.09	1.42	1 1/8



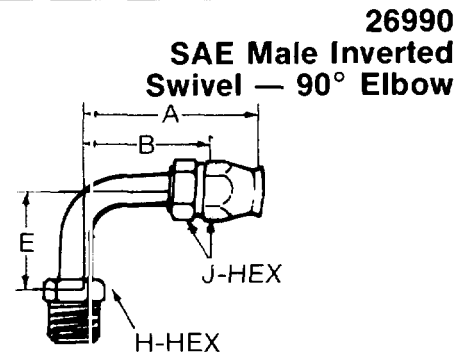
*Brass nipple, steel nut and socket.

90 Series Reusable Fittings used with 909, 919 Hose

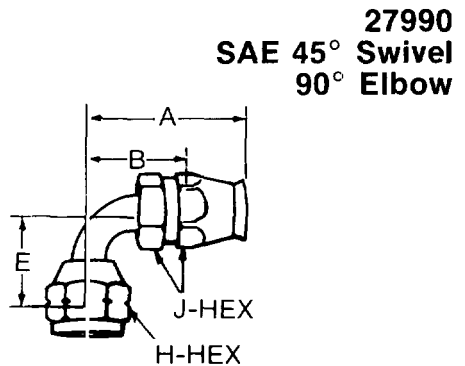
Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex
		Size	Thread					
26790-6-6	-6	3/8	5/8-18	2.48	1.96	.94	5/8	1 1/16
26790-8-8	-8	1/2	3/4-18	2.69	2.06	1.09	3/4	7/8



Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex
		Size	Thread					
26990-6-6	-6	3/8	5/8-18	2.13	1.61	1.69	5/8	1 1/16

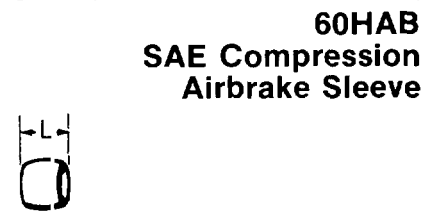


Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex
		Size	Thread					
27990-4-4	-4	1/4	7/16-20	1.44	.98	.68	9/16	9/16
27990-6-6	-6	3/8	5/8-18	1.62	1.10	.85	3/4	1 1/16
27990-8-8	-8	1/2	3/4-16	1.97	1.34	1.09	7/8	7/8

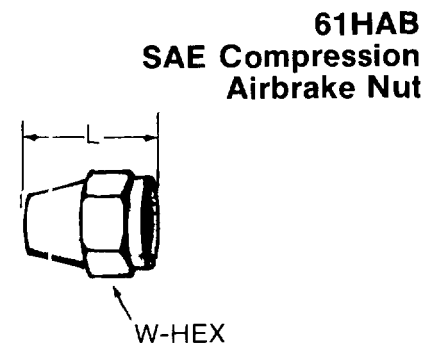


Notch in nut for SAE identification on size—6 only.

Part No.	Tube Size	L
60HAB-8	1/2	.375
60HAB-10	5/8	.438
60HAB-12	3/4	.500



Part No.	Tube Size	Thread	L	W Hex
61HAB-8	1/2	1 1/16-20	1.25	13/16
61HAB-10	5/8	13/16-18	1.38	15/16
61HAB-12	3/4	1-18	1.56	1 1/8



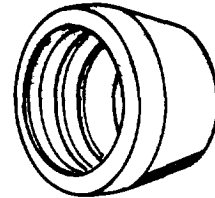
61 HAB Nut and 60 HAB Sleeve are used with 23490, 26190, 13490, 16190 and 26120 Fittings.

90 Series

90 Series Reusable Fittings used with 909, 919 Hose

Part No.	Hose Size
090-4B	-4
090-5B	-5
090-6B	-6
090-8B	-8
090-10B	-10
090-12B	-12
090-16B	-16
090-20B	-20

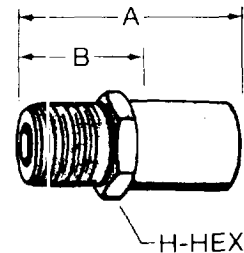
090 Replacement Ferrule for Reusable Fittings



90 Series Permanent Fittings used with 909, 919 Hose Assembly tools listed on pages A-139 - A-140.

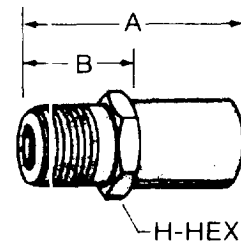
BRASS Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	Use Pusher No.
10190-2-4B	-4	1/8-27	1.25	.77	1/2	T-10190-2X
10190-4-4B	-4	1/4-18	1.43	.95	9/16	T-10190-4X
10190-4-5B	-5	1/4-18	1.52	.99	9/16	T-10190-4X
10190-4-6B	-6	1/4-18	1.61	1.02	5/8	T-10190-4X
10190-6-6B	-6	3/8-18	1.61	1.02	11/16	T-10190-6X
10190-6-8B	-8	3/8-18	1.70	1.05	3/4	T-10190-6X
10190-8-8B	-8	1/2-14	1.89	1.24	7/8	T-10190-8X
10190-8-10B	-10	1/2-14	1.92	1.27	7/8	T-10190-8X
10190-12-12B	-12	3/4-14	2.12	1.32	1 1/16	T-10190-12X
10190-16-16B	-16	1 - 11 1/2	2.48	1.45	1 3/8	T-10190-16X
10190-20-20B	-20	1 1/4-11 1/2	2.58	1.54	1 11/16	T-10190-20X

10190 Male Pipe (Brass)



*Stainless STEEL Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	Use Pusher No.
10191-2-4C	-4	1/8-27	1.40	.88	7/16	T-10191-2XC
10191-4-4C	-4	1/4-18	1.62	1.10	9/16	T-10191-4XC
10191-4-5C	-5	1/4-18	1.73	1.16	9/16	T-10191-4XC
10191-4-6C	-6	1/4-18	1.79	1.16	9/16	T-10191-4XC
10191-6-8C	-8	3/8-18	1.94	1.22	1 1/16	T-10191-6XC
10191-8-8C	-8	1/2-14	2.18	1.42	7/8	T-10191-8XC
10191-8-10C	-10	1/2-14	2.17	1.48	7/8	T-10191-8XC
10191-12-12C	-12	3/4-14	2.41	1.61	1 1/8	T-10191-12XC
10191-16-16C	-16	1 - 11 1/2	2.74	1.80	1 3/8	T-10191-16XC
10191-20-20C	-20	1 1/4-11 1/2	2.87	1.93	1 3/4	T-10191-20XC

10191 Male Pipe (Stainless Steel)

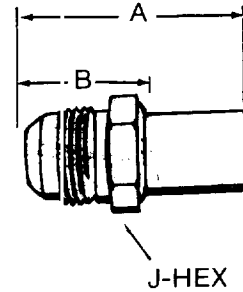


*303 Stainless Nipple, 304 Stainless Socket

90 Series Permanent Fittings used with 909, 919 Hose

10390

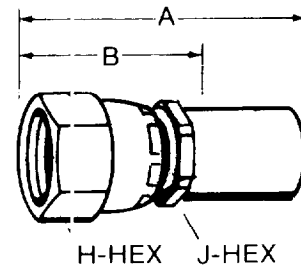
Male SAE (JIC) 37° Flare



Brass Part No.	Hose Size	Tube		A	B Cut-off Allow.	J Hex	Use Pusher No.
		Size	Thread				
10390-8-6B	-6	1/2	3/4-16	1.71	.93	13/16	T-10390-6X

10690

SAE (JIC) 37° Swivel (Brass)

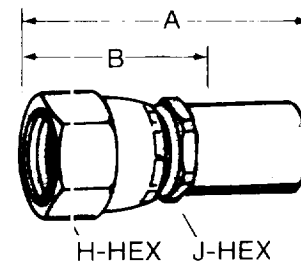


BRASS Part No.*	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	Use Pusher No.
		Size	Thread					
10690-4-4B	-4	1/4	7/16-20	1.43	.95	9/16	1/2	T-16890-4X
10690-5-5B	-5	5/16	1/2-20	1.59	1.05	5/8	9/16	T-16890-5X
10690-6-6B	-6	3/8	9/16-18	1.74	1.14	11/16	5/8	T-10690-6X
10690-8-8B	-8	1/2	3/4-16	1.89	1.24	7/8	3/4	T-16890-8X
10690-10-10B	-10	5/8	7/8-14	2.06	1.41	1	7/8	T-16890-10X
10690-12-12B	-12	3/4	1 1/16-12	2.30	1.50	1 1/4	1	T-10690-12X
10690-16-16B	-16	1	1 5/16-12	2.68	1.66	1 1/2	1 3/8	T-10690-16X
10690-20-20B	-20	1 1/4	1 5/8-12	2.86	1.83	2	1 5/8	T-10690-20X

*Steel nut, brass insert.

10691

SAE (JIC) 37° Swivel (Stainless Steel)

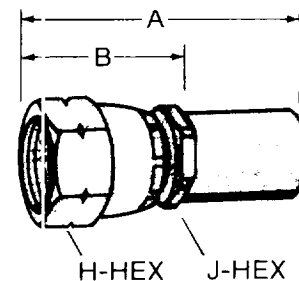


*Stainless STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	Use Pusher No.
		Size	Thread					
10691-4-4C	-4	1/4	7/16-20	1.41	.90	9/16	1/2	T-16891-4XC
10691-5-5C	-5	5/16	1/2-20	1.63	.95	5/8	9/16	T-16891-5XC
10691-6-6C	-6	3/8	9/16-20	1.71	1.08	11/16	5/8	T-10691-6XC
10691-8-8C	-8	1/2	3/4-16	1.91	1.22	7/8	3/4	T-16891-8XC
10691-10-10C	-10	5/8	7/8-14	2.04	1.34	1	7/8	T-16891-10XC
10691-12-12C	-12	3/4	1 1/16-12	2.23	1.44	1 1/4	1	T-10691-12XC
10691-16-16C	-16	1	1 5/16-12	2.46	1.52	1 1/2	1 3/8	T-10691-16XC
10691-20-20C	-20	1 1/4	1 5/8-12	2.56	1.62	2	1 5/8	T-10691-20XC

*303 stainless nipple and nut, 304 stainless socket.

10890

SAE 45° Swivel



BRASS Part No.*	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	Use Pusher No.
		Size	Thread					
10890-4-4B	-4	1/4	7/16-20	1.43	.95	9/16	1/2	T-16890-4X
10890-5-5B	-5	5/16	1/2-20	1.59	1.05	5/8	9/16	T-16890-5X
10890-6-6B	-6	3/8	5/8-18	1.74	1.14	3/4	5/8	T-10890-6X
10890-8-8B	-8	1/2	3/4-16	1.89	1.24	7/8	3/4	T-16890-8X
10890-10-10B	-10	5/8	7/8-14	2.06	1.41	1	7/8	T-16890-10X
10890-12-12B	-12	3/4	1 1/16-14	2.39	1.60	1 1/4	1	T-10890-12X

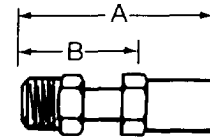
*Steel nut, Brass insert.

90 Series

90 Series Permanent Fittings used with 909, 919 Hose

12890 SAE Male Inverted Swivel Straight

STEEL Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	J Hex	Use Pusher No.
		Size	Thread					
12890-6-6	-6	3/8	5/8-18	2.17	1.52	5/8	5/8	T1BT90-6X

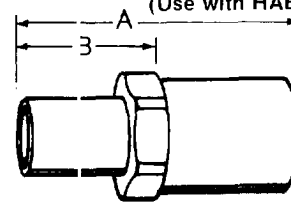


J-HEX H-HEX

Brass Part No.	Hose Size	Tube Size	A	B Cut-off Allow.	H Hex	Pusher No.
13490-8-10B	-10	1/2	2.89	2.24	7/8	T13490-10XL
13490-10-10B	-10	5/8	3.03	2.38	7/8	T13490-10XL
13490-12-12B	-12	3/4	3.52	2.72	1	T13490-12XL

13490 Straight Tube

(Use with HAB nut and sleeve
Page A-98)

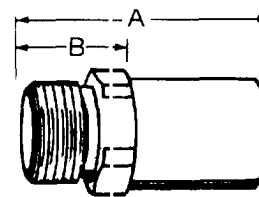


H-HEX

Brass Part No.	Hose Size	Tube		A	B Cut-off Allow.	H Hex	Pusher No.
		Size	Thread				
16190-8-10B	-10	1/2	1 1/16-20	1.61	.96	7/8	T16190-8X
16190-10-10B	-10	5/8	1 3/16-18	1.67	1.02	15/16	T16190-10X
16190-12-12B	-12	3/4	1-18	1.94	1.14	1 1/8	T16190-12X

16190 Compression Air Brake

(Use with HAB
nut and sleeve
Page A-98)

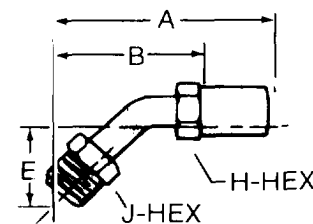


H-HEX

16790 SAE Male Inverted Swivel 45° Elbow

STEEL * Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	Use Pusher No.
		Size	Thread						
16790-6-6	-6	3/8	5/8-18	2.43	1.78	.94	5/8	5/8	T-1BT90-6X

*Brass body, steel tube and nut.

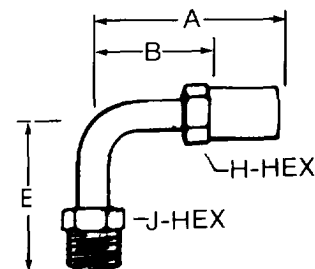


J-HEX H-HEX

16990 SAE Male Inverted Swivel 90° Elbow

STEEL * Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	Use Pusher No.
		Size	Thread						
16990-6-6	-6	3/8	5/8-18	2.08	1.42	1.69	5/8	5/8	T-1BT90-6X

*Brass body, steel tube and nut.



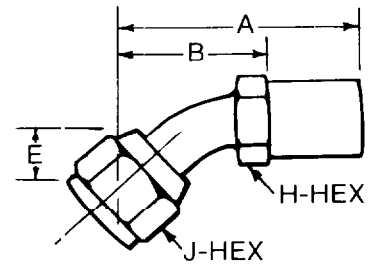
J-HEX H-HEX

90 Series Permanent Fittings used with 909, 919 Hose

STEEL* Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	Use Pusher No.
		Size	Thread						
17790-8-8	-8	1/2	3/4-16	2.08	1.37	.55	3/4	7/8	T-1BT90-8X

*Brass body, steel tube and nut.

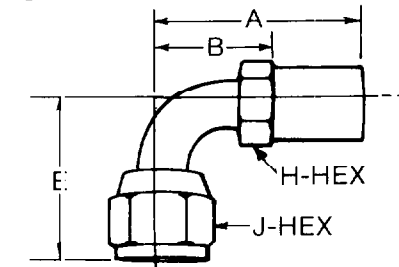
17790
SAE 45° Swivel 45° Elbow



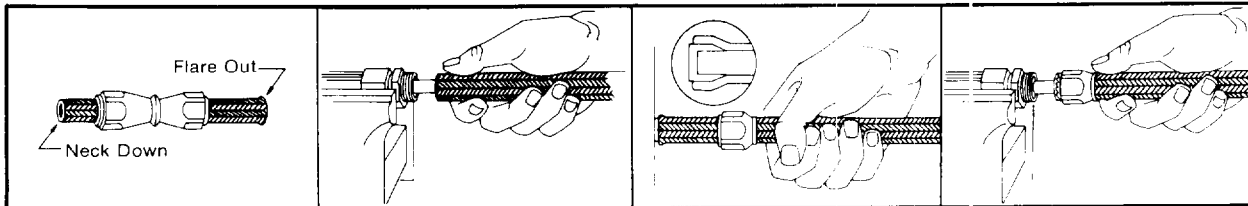
STEEL* Part No.	Hose Size	Tube		A	B Cut-off Allow.	E	H Hex	J Hex	Use Pusher No.
		Size	Thread						
17990-8-8	-8	1/2	3/4-16	1.87	1.16	1.02	3/4	7/8	T-1BT90-8X

*Brass body, steel tube and nut.

17990
SAE 45° Swivel 90° Elbow

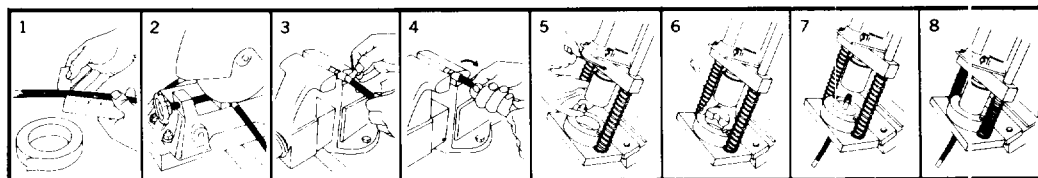


Assembly Instructions 90 Series Reusable Fittings



1. Wrap hose with masking tape at cutoff point Cut squarely to length through taped area with a sharp cutoff wheel or fine-toothed hacksaw Remove tape Trim any loose wires flush with tube stock Remove any burrs on the bore of the tube stock with a knife To start assembly, slip two sockets over the end of the hose, back to back. (If one end of hose "necks down" use this end to start the sockets.) Position the two sockets about three inches from each end of the hose 2. Mount nipple hex in a vise. Work the hose bore over the nipple to size the tube and to aid in separating the braid, before fitting the sleeve. Remove hose from nipple. 3. Push sleeve over end of the inner Teflon tube and under the wire braid by hand. To complete positioning of the sleeve, push hose end against a flat surface Check visually to make sure tube stock butts against the inside shoulder of the sleeve Set the sleeve bars into the Teflon tube by pushing a tapered punch into the end of the sleeve and tube. 4. Lubricate nipple and socket threads For stainless steel fittings use a molybdenum disulfide base lubricant. For other materials, use Heavy Oil. Hold nipple hex in vise. Push hose over nipple with twisting motion till seated against nipple chamfer. Push socket forward, and hand-start threading of socket to nipple Wrench tighten nipple hex until clearance with socket hex is 1/32" or less. Tighten further to align corners of nipple and socket hexes

Assembly and Swaging Instructions 90 Series Permanent Fittings



1. Measure hose to desired length and tape area to be cut (masking tape may be used.) This is to prevent wire braid from flaring 2. Mark taped area of hose with crayon or pencil. Cut hose at mark (through the tape). 3. **IMPORTANT** — Start hose into fitting before removing tape. REMOVE TAPE. 4. **BRASS** — Push and turn hose clockwise into fitting recess until hose bottoms. **STAINLESS STEEL:** Push and turn hose counterclockwise then screw nipple clockwise into socket. 5. Select proper pusher. Place into ram and adjust setscrew. 6. Select proper die. Place die half into die holder. 7. Place hose in to position against first die half and insert second half. Lubricate fitting and die. 8. Locate hose fitting in pusher bore and operate machine to swage fitting. Ram will bottom on face of die to complete swaging stroke.

Assembly Tools and Machines Listed on Pages A-141 and A-142.

86 Series

Hose and Fittings Railroad Air Brake Service

861 Hose Railroad Air Brake Service



railroad air brake hose meets all construction and performance requirements of Association of American Railroads specification AAR-M618.

Construction: Synthetic rubber tube; high tensile steel wire braid reinforcement (-10 and -12 sizes have one carbon steel braid, -16 and -24 have two carbon steel braids), tough synthetic rubber cover is resistant to oil, weather and abrasion.

Temperature Range: -50°F. to +140°F. (-46°C to +60°C)

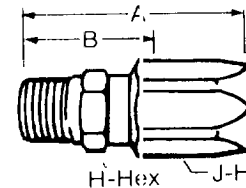
Part No.	Hose I.D.	Hose O.D.	Recommended Working Pressure P.S.I.	Minimum Burst Pressure P.S.I.	Minimum Bend Radius (Inches)
861-10	1/2	.94	300	1,200	5 1/2
861-12	5/8	1.12	300	1,200	6 1/2
861-16	7/8	1.38	300	1,200	7 3/8
861A-24	1 3/8	1.88	300	1,200	10 1/2

Application: Locomotive and passenger car lines. Meets all construction and performance requirements of Association of American Railroads Specification AAR-M618.

86 Series Fittings used with 861, 861A Hose

Part No.	Hose Size	Pipe Thread	A	B Cut-off Allow.	H Hex	J Hex
C20186-8-10*	-10	1/2-14	2.83	1.64	1 1/8	1 1/8
20186-8-10	-10	1/2-14	2.83	1.64	1 1/8	1 1/8
20186-12-12	-12	3/4-14	2.89	1.64	1 1/8	1 5/16
20186-12-16	-16	3/4-14	3.14	1.76	1 3/8	1 9/16
20186-16-16	-16	1 -11 1/2	3.33	1.95	1 3/8	1 9/8
20186-20-24	-24	1 1/4-11 1/2	3.73	2.12	1 7/8	2 1/8

*Choke Fitting

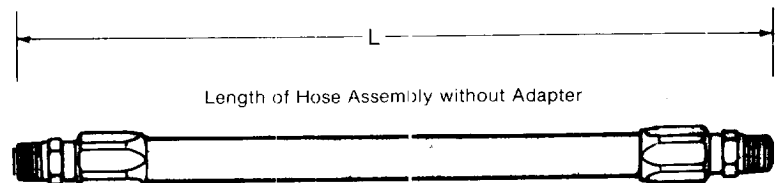


20186 Male Pipe

SERIES 86 FITTINGS are over the cover type and do not require cover of hose to be skived off prior to assembly. Fittings are reusable, can be assembled to hose with ordinary hand tools.

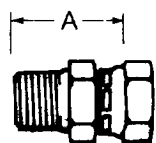
Hose Assemblies

Assembly No.	Hose Size	Pipe Thread
8610101-8-8-10-L	-10	1/2-14
8610101-12-12-12-L	-12	3/4-14
8610101-12-12-16-L	-16	3/4-14
8610101-16-16-16-L	-16	1 -11 1/2
861A0101-20-20-24-L	-24	1 1/4-11 1/2



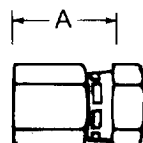
railroad air brake hose assemblies do not include adapters. Adapters are ordered separately as shown below.

Air Brake Adapters



0107
Male Pipe
Adapter

Adapter Part No.	Pipe Thread	A
0107-8-8	1/2-14	1.63
0107-12-12	3/4-14	1.69
0107-16-16	1 -11 1/2	2.00
0107-20-20	1 1/4-11 1/2	2.13

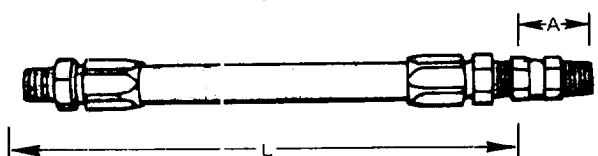


0207
Female Pipe
Adapter

Adapter Part No.	Pipe Thread	A
0207-8-8	1/2-14	1.50
0207-12-12	3/4-14	1.63
0207-16-16	1 -11 1/2	2.00
0207-20-20	1 1/4-11 1/2	2.00

Pipe thread swivel nut adapters are used to eliminate the twisting of hose that results from direct mounting of pipe threaded ends.

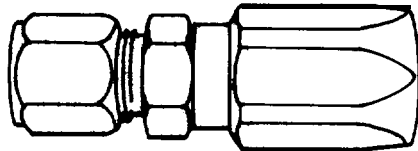
Swivel nut of adapter screws onto the pipe thread of a 20186 fitting which is specially chamfered to provide metal-to-metal seating for a leakproof connection.



Overall length of Assembly with Adapters is L + A.

Ferrul-Fix ...

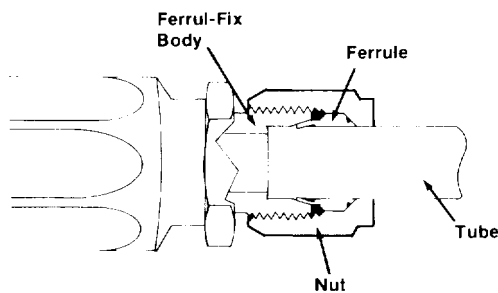
Fast, on-the-job repair for ruptured bent tube hose assemblies and power steering lines.



- Gets you back in operation fast** — No costly delays while replacement assemblies are rushed from the factory.
- Lets you reuse expensive bent tube ends** — You can replace the hose at a fraction of the cost of complete assembly.
- Eliminates need for emergency brazing or welding in the field** — Ferrul-Fix can be assembled without special tools or equipment.

The life of the combination tube-hose assembly is often limited to the service life of the hose alone. A replacement assembly may not be available, since equipment dealers are unable to stock all of the many odd tube configurations.

FERRUL-FIX, a field attachable, reusable hose end fitting, now makes it possible to salvage the bent tube section of the original assembly for replacement. Most important, it gets you back into operation FAST!



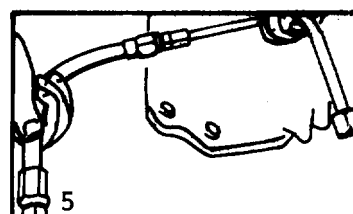
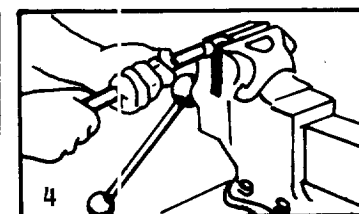
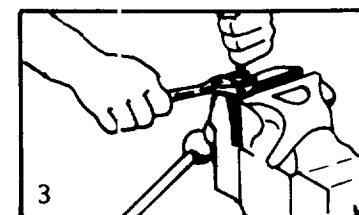
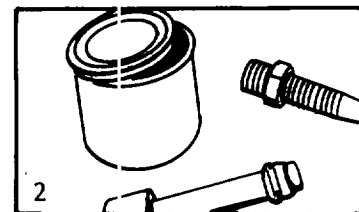
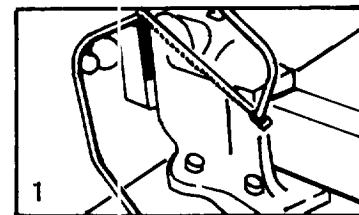
3-Piece Design — body, nut, ferrule. Wedging action of ferrule, when drawn down by nut, forms seal between body and ferrule, while cutting edge of ferrule "bites" into tube wall forming another positive seal.

Visible Bite. Extent of bite at cutting edge of ferrule is completely visible when fitting is dis-assembled, an important safety feature. Self-centering action assures even bite around circumference of tube.

Finish — Ferrul-Lok fittings have the black finish, providing "built-in" lubrication which reduces wrench torque in make-up.

Ferrul-Fix Installation Instructions

1. Cut the formed tube off squarely next to the permanent hose fitting. Lightly deburr the end of the tube internally and externally.
2. Disassemble the Ferrul-Fix fitting, and lubricate threads and both ends of the ferrule.
3. Slide nut and ferrule onto tubing, with the long, straight end of the ferrule pointing toward the tube end.
4. Insert tube end into the Ferrul-Fix body until it bottoms against the shoulder. Slide ferrule inside body, and screw nut down finger tight.
5. Tighten nut with a wrench until tube no longer can be rotated easily. From this point, tighten nut one more complete turn.
6. Disconnect nut and inspect lead edge of ferrule to make certain that the biting edge has turned up a shoulder completely around the tube.
7. Assemble Ferrul-Fix fitting to hose. Refer to assembly instructions listed in appropriate fittings section. Do not assemble to hose before steps 1 - 6.
8. Reassemble tubing into Ferrul-Fix end and turn nut finger tight. Turn bent tube to proper position if required. Using two wrenches, one on the fitting nipple hex and the other on the nut, tighten nut from 1/6 to 1/3 turn.



Note: To order Ferrul-Fix fitting only (without nut and ferrule) use the suffix "N". Example: 21120-10-10N. Nut only 111-10N, ferrule only 110-10. (-10 is for 5/8" O.D. Tube)

PFT Type A SAE J844c Type 3A

Part No.	Tube O.D.	Recommended Working Pressure PSI	Minimum Burst Pressure PSI	Minimum Bend Radius
PFT-2A	1/8	150	1000	3/8
PFT-4A	1/4	150	1200	1
PFT-5A	5/16	150	1000	1 1/4

Complies with U.S. Dept. of Transportation (D.O.T.)
Federal Motor Vehicle Safety Standard (FMVSS-106 Brake Hoses)
Meets all labeling requirements per this standard.
Size 2 not listed in FMVSS-106.



Non-Reinforced

Construction: Single wall extruded, Type 11 nylon tubing.

Applications: Air brake, fuel, instrumentation and air accessory systems. Meets SAE J844c, Type 3A.

Temperature Range: -40°F. to +200°F. (-40°C to +93°C)

Color: To specify color, consult price schedule 4452.1.

PFT Type B SAE J844c Type 3B

Part No.	Tube O.D.	Recommended Working Pressure PSI	Minimum Burst Pressure PSI	Minimum Bend Radius
PFT-6B	3/8	150	1400	1 1/2
PFT-8B	1/2	150	950	2
PFT-10B	5/8	150	900	2 1/2
PFT-12B	3/4	150	800	3

Complies with U.S. Dept. of Transportation (D.O.T.)
Federal Motor Vehicle Safety Standard (FMVSS-106 Brake Hoses)
Meets all labeling requirements per this standard.



Reinforced

Construction: Seamless, Type 11 nylon liner, reinforced with one open ply of fiber braid, Type 11 nylon cover is fused to liner.

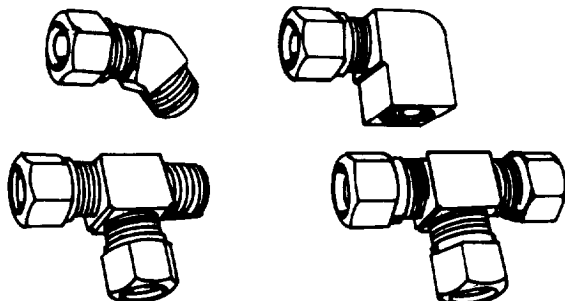
Applications: Air brake, fuel, instrumentation and air accessory systems. Meets SAE J844c, Type 3B.

Temperature Range: -40°F. to +200°F. (-40°C to +93°C)

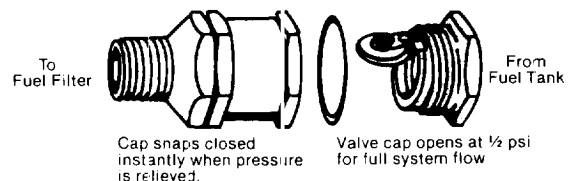
Color: To specify color, consult price schedule 4452.1.

Fittings

PFT Nylon tubing can be used with NTA air brake fittings or standard compression type brass fittings.



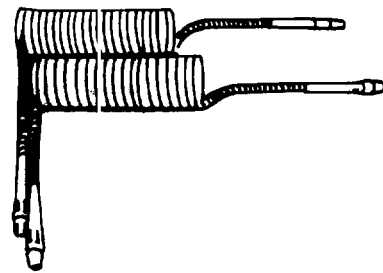
Fuel Line Check Valves



A low cost, in-the-line check valve designed for diesel and gasoline engine fuel lines. Keeps injector system fully primed. Also for externally mounted oil filters and coolers as well as transmission fluid lubrication lines. It works in most air, gas or liquid systems.

Part No.	Pipe Thread	Length
2600	1/4-27	2.06
2650	3/8-18	2.12

Kit Coil Number	Individual Coil Part Number Price = 1/2 Kit Price	Tube O.D.	Valve Tail Lgth.	Male Ends		Work Lgth.	No. of Coils
				Valve	Glad-Hand		
731516	731512-Red 731512-Blu	-8	12"	1/2	1/2	15'	22 1/2
791500 Master Carton	6 EACH: 731512-Red 731512-Blu	-8	12"	1/2	1/2	15'	22 1/2
751597	731611-Red 731611-Blu	-8	12"	3/8	1/2	15'	22 1/2
731522	731513-Red 731513-Blu	-8	40"	1/2	1/2	15'	22 1/2
741526	731612-Red 731612-Blu	-8	40"	3/8	1/2	15'	22 1/2
751641	741590-Red 741590-Blu	-8	6"	1/2	1/2	12'	19 1/2
751655	751656 Black only	-8	6"	3/8	1/2	12'	19 1/2
751657	751658-Red 751658-Blu	-8	8"	1/4	1/4	8'	14 1/2
751659	751660-Red 751660-Blu	-8	8"	3/8	3/8	8'	14 1/2
751634	751635-Red 751635-Blu	-8	8"	1/2	1/2	6'	12 1/2

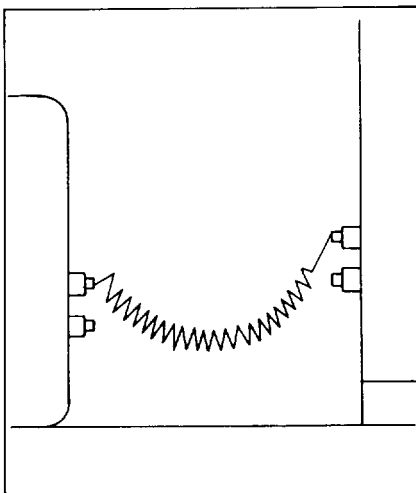


Construction: Seamless Type 11 nylon liner, reinforced with one open ply of fiber braid, and Type 11 nylon cover fused to liner. Meets SAE J44c Type 3B. NTA type brass fittings (SAE J 246) with long spring guard each end.

Application: Vehicle Airbrake Systems

Temperature Range: -40° F. to +200° F. (-40° C to +93° C)

Brakecoil

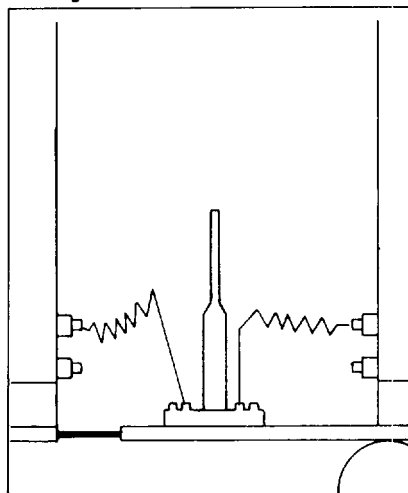


Use between Tractor and Trailer.

Brakecoil Assemblies fully comply with D.O.T. requirements covering coiled nylon brake tubing as stated in Chapter III — Federal Highway Administration, Department of Transportation. Subchapter B — Motor Carrier Safety Regulations (Docket No. MC-41; Notice No. 73-9)

Part 393 — Parts and Accessories necessary for safe operation.

Dollycoil

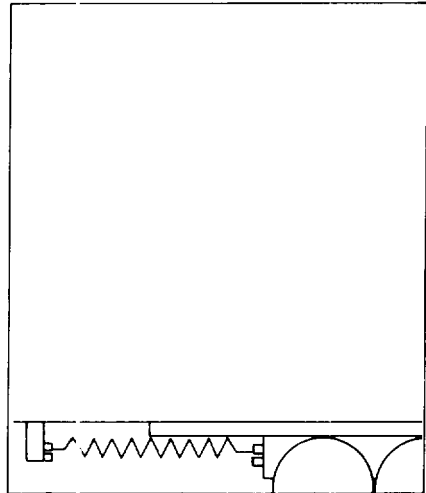


Use between Double Trailers on Converter Dollies.

Dollycoil Assemblies fully comply with D.O.T. requirements covering coiled nylon brake tubing as stated in Chapter III — Federal Highway Administration, Department of Transportation. Subchapter B — Motor Carrier Safety Regulations (Docket No. MC-41; Notice No. 73-9)

Part 393 — Parts and Accessories necessary for safe operation.

Slidercoil



Use between Adjustable Rear Trailer Axles and Fixed Point on Trailer Chassis. Meets — D.O.T. requirements — Title 49 - Transportation. Chapter III — Federal Highway Administration, Department of Transportation. (Docket No. MC-68; Notice No. 75-16)

Part 393 — Parts and Accessories necessary for safe operation.

HOSE FRAME FITTINGS



Part No. 731605
1/4-18 NPTF Th'd
Both Ends
1-14 UNS-2A Th'd

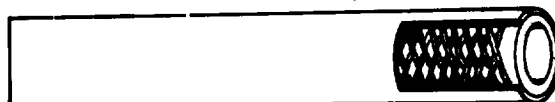


Part No. 731604
1/4-18 NPTF Th'd
Both Ends
3/4-16 UNF-2A Th'd

Part Number	Hose I.D.	Burst Pressure			Min. Bend Radius (ins.)
		Typical Values	SAE J20e Part III Requirements	ZZ-H-42B Type VI Requirements	
848-6	3/8	300	250	200	2
848-8	1/2	300	250	200	2
848-10	5/8	275	250	140	2 1/2
848-12	3/4	250	200	140	2
848-16	1	200	175	125	4

Silicone hose is intended for heater systems which are exposed to constant high ambient heat like transit bus engine compartments or on over-the-road, city diesel or gasoline tractors where there must be a fail-safe heater hose system guaranteeing no coolant system failure due to hose problems.

Dura-Sil 848 Silicone Hose



Construction Tube — silicone rubber, specially compounded for long life. Reinforcement — braided glass fibers compatible with most anti-freeze. Braid expands for easy assembly to fitting. Cover — green silicone rubber.

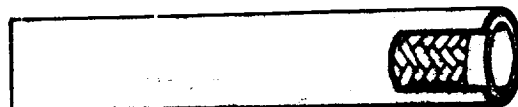
Temperature Range: -55°F. to +350°F.

Meets RCCC recommended practice and SAE J20e Part III 20R3 and Federal spec. ZZH428 Type VI.

Part Number	Hose I.D.	Burst Pressure			Min. Bend Radius (ins.)
		Minimum Burst	SAE J20e Part III Requirements	ZZ-H-428 Type VI Requirements	
841HT-6	3/8	300	250	200	2
841HT-8	1/2	300	250	200	2
841HT-10	5/8	275	250	140	2 1/2
841HT-12	3/4	250	200	140	3
841HT-16	1	200	175	125	4

841 HT is the first truly superior rubber heater hose. It exceeds any heater hose standards now written from the standpoint of temperature rating, vacuum requirements, compatibility with coolants and fuels, burst pressure and bend radius. It offers a true performance alternative to expensive silicone systems.

Heatrflex High Temperature Hose

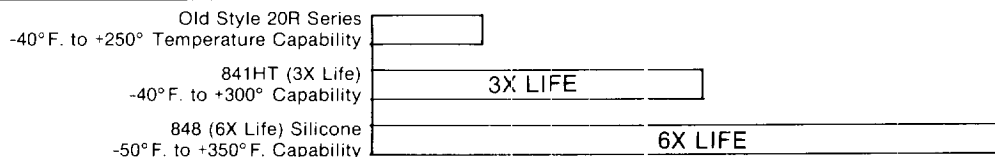


Construction: Tube — 300°F. rubber, specially compounded for long life. Reinforcement — braided fibers compatible with most anti-freeze. Braid expands for easy assembly to fitting. Cover — fabric braid, Hypalon finish, compounded for long lasting life. Unaffected by Ozone.

Temperature Range: -40°F. to +300°F.

Meets SAE J20e Part III 20R3 and Federal spec. ZZH423 Type VI.

Comparative Life Expectancy of Heater Hoses in Truck & Bus Heater Systems

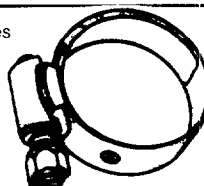


Lined Clamp for Dura-Sil 848 Hose

Clamp No.	Used With
H5308	-8
H5310	-10
H5312	-12
H5316	-16

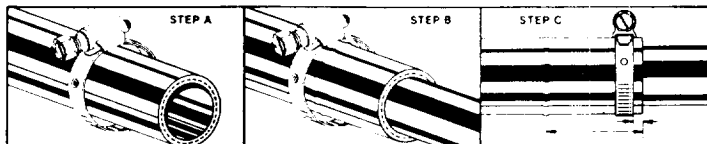
300 Series Stainless Steel for long life.

Lined to prevent rubber extrusion thru thread openings.



With silicone 848 hose it is necessary to use a clamp which prevents extrusion of the soft silicone rubber thru the thread opening in the clamp. Never use wire clamps. The lined clamp is required.

Assembly of Lined Clamp to Silicone Hose*



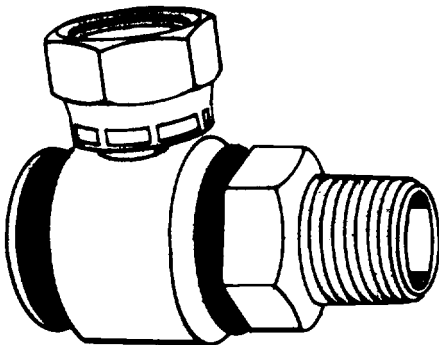
With a sharp knife, cut hose square to length required. Slide lined hose clamp over hose cover.

Push hose over beaded tube.

Locate lined hose clamp near the end of hose and tighten the clamp.

*Same principle should be followed when assembling Heatrflex — except lined clamp not required.

**3000 P.S.I.
Hydraulic Swivels**



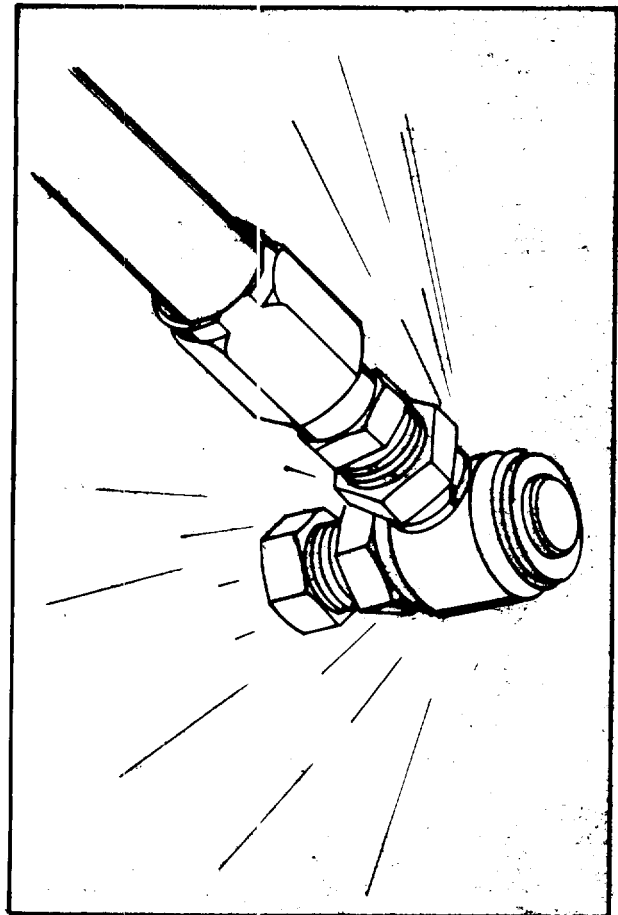
Swivel adapters feature 360° swiveling action that especially suits them for use in applications where hose moves, bends or twists. Swivel adapters connected to hose assemblies relieve twisting, prevent excessive flexing of hose, eliminate need for long radius bends and cushion intra-line shock caused by peak system pressure surges. *Results — Longer hose life and reduced equipment "downtime"*. Engineered to operate at pressures up to 3000 p.s. i. and 10 RPM for all sizes, the Swivel Adapters can be used with hoses rated up to and including 3000 p.s. i. working pressures.

Features:

Low-Torque — micro-finished shafts and carbon-filled teflon back-up washers provide minimum torque.

Special Seal Assembly — patented "vented" bearing design made of a long wearing alloy prevents o-ring twist and wear for long seal life.

Dust Sealing — exclusive "Grit-Guard" cap and three non-pressurized-o-rings guard against dust, foreign material and other contaminants.

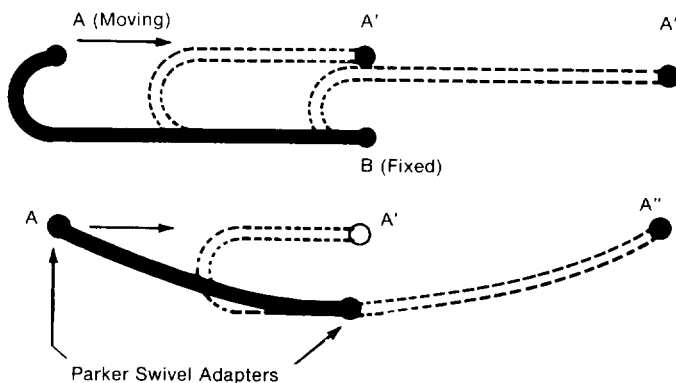


Field Renewable — simplicity of design permits fast, easy replacement of seals in the field without any special tools.

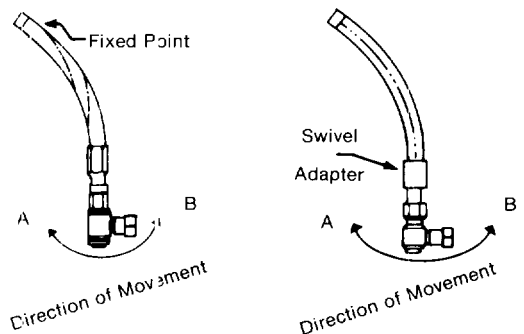
Optional Seal Materials — all adapters use Buna-N seals, however, EPR or Viton seals are available on factory assembled units or in kit form for field installation. See page 110.

Eliminate Long Radius Bends

Hose only showing length hose required between A and B



Eliminate Hose Twisting



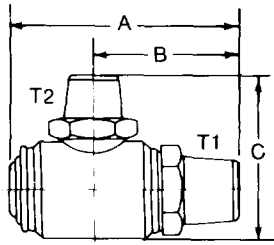
without Swivel Adapter
Hose Twists

with Swivel Adapter
No Twist

Swivel Adapters and Hose require 25% less hose - and less wear

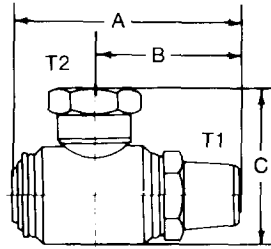
Hose Adapters

360° Swivels



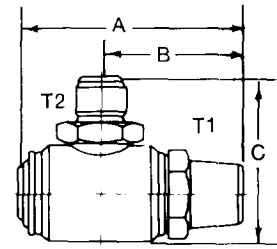
Part no. S2101- (Dash size)
Male Pipe Stem - Male Pipe Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
4-4	1/4-18	1/4-18	2.31	1.50	2.10
4-6	1/4-18	3/8-18	2.31	1.50	2.13
6-4	3/8-18	1/4	2.31	1.50	2.10
6-6	3/8-18	3/8-18	2.31	1.50	2.13
8-8	1/2-14	1/2-14	2.73	1.83	2.54
12-12	3/4-14	3/4-14	3.32	2.11	2.92
16-16	1 -11 1/2	1 -11 1/2	3.79	2.46	3.52
20-20	1 1/4-11 1/2	1 1/4-11 1/2	4.75	2.98	4.23



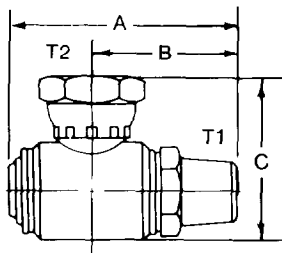
Part no. S2102- (Dash size)
Male Pipe Stem - Female Pipe Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
4-4	1/4-18	1/4-18	2.31	1.50	2.07
4-6	1/4-18	3/8-18	2.31	1.50	2.13
6-4	3/8-18	1/4-18	2.31	1.50	2.07
6-6	3/8-18	3/8-18	2.31	1.50	2.13
8-8	1/2-14	1/2-14	2.74	1.83	2.41
12-12	3/4-14	3/4-14	3.33	2.11	2.76
16-16	1 -11 1/2	1 -11 1/2	3.79	2.46	3.40
20-20	1 1/4-11 1/2	1 1/4-11 1/2	4.75	2.98	4.01



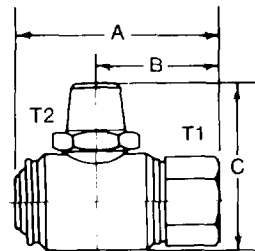
Part no. S2103- (Dash size)
Male Pipe Stem -
Male JIC 37° Flare Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
4-4	1/4-18	7/16-20	2.31	1.50	2.13
4-E	1/4-18	1/2-20	2.31	1.50	2.13
4-C	1/4-18	9/16-20	2.31	1.50	2.13
6-4	3/8-18	7/16-20	2.31	1.50	2.13
6-E	3/8-18	1/2-20	2.31	1.50	2.13
6-C	3/8-18	9/16-18	2.31	1.50	2.13
6-E	3/8-18	3/4-16	2.31	1.50	2.22
8-E	1/2-14	3/4-16	2.74	1.83	2.34
8-10	1/2-14	7/8-14	2.74	1.83	2.53
12-12	3/4-14	1 1/16-12	3.33	2.11	3.04
16-16	1 -11 1/2	1 5/16-12	3.79	2.46	3.48
20-20	1 1/4-11 1/2	1 5/8-12	4.75	2.98	4.22



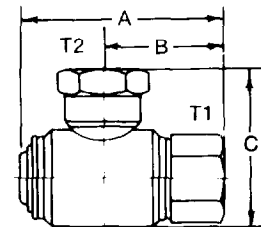
Part no. S2107- (Dash size)
Male Pipe Stem -
Female Pipe Swivel Nut Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
4-4	1/4-18	1/4-18	2.31	1.50	1.69
4-6	1/4-18	3/8-18	2.31	1.50	1.74
6-4	3/8-18	1/4-18	2.31	1.50	1.69
6-6	3/8-18	3/8-18	2.31	1.50	1.74
8-8	1/2-14	1/2-14	2.74	1.83	1.92
12-12	3/4-14	3/4-14	3.33	2.11	2.31
16-16	1 -11 1/2	1 -11 1/2	3.79	2.46	2.74
20-20	1 1/4-11 1/2	1 1/4-11 1/2	4.75	2.98	3.38



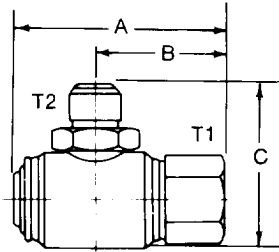
Part no. S2201- (Dash size)
Female Pipe Stem - Male Pipe Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
4-4	1/4-18	1/4-18	2.19	1.38	2.10
4-6	1/4-18	3/8-18	2.19	1.38	2.13
6-4	3/8-18	1/4-18	2.19	1.38	2.10
6-6	3/8-18	3/8-18	2.19	1.38	2.13
8-8	1/2-14	1/2-14	2.47	1.56	2.54
12-12	3/4-14	3/4-14	3.12	1.91	2.92
16-16	1 -11 1/2	1 -11 1/2	3.65	2.32	3.52
20-20	1 1/4-11 1/2	1 1/4-11 1/2	4.52	2.75	4.23



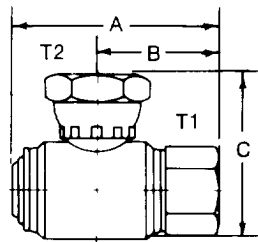
Part no. S2202- (Dash size)
Female Pipe Stem - Female Pipe Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
4-4	1/4-18	1/4-18	2.19	1.38	2.07
4-6	1/4-18	3/8-18	2.19	1.38	2.13
6-4	3/8-18	1/4-18	2.19	1.38	2.07
6-6	3/8-18	3/8-18	2.19	1.38	2.13
8-8	1/2-14	1/2-14	2.47	1.56	2.41
12-12	3/4-14	3/4-14	3.12	1.91	2.76
16-16	1 -11 1/2	1 -11 1/2	3.65	2.32	3.40
20-20	1 1/4-11 1/2	1 1/4-11 1/2	4.52	2.75	4.01



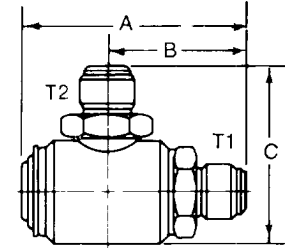
Part no. S2203- (Dash size)
Female Pipe Stem -
Male JIC 37° Flare Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
4-4	1/4-18	7/16-20	2.19	1.38	2.13
4-5	1/4-18	1/2-20	2.19	1.38	2.13
4-6	1/4-18	9/16-18	2.19	1.38	2.13
6-4	3/8-18	7/16-20	2.19	1.38	2.13
6-5	3/8-18	1/2-20	2.19	1.38	2.13
6-6	3/8-18	9/16-18	2.19	1.38	2.13
6-8	3/8-18	3/4-16	2.19	1.38	2.22
8-8	1/2-14	3/4-16	2.47	1.56	2.34
8-10	1/2-14	7/8-14	2.47	1.56	2.53
12-12	3/4-14	1 1/16-12	3.12	1.91	3.04
16-16	1 -11 1/2	1 5/16-12	3.65	2.32	3.48
20-20	1 1/4-11 1/2	1 5/8 -12	4.52	2.75	4.22



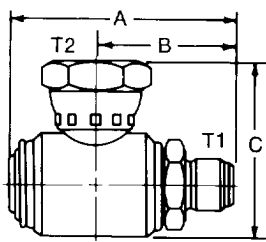
Part no. S2207- (Dash size)
Female Pipe Stem -
Female Pipe Swivel Nut Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
4-4	1/4-18	1/4-18	2.19	1.38	1.69
4-6	1/4-18	3/8-18	2.19	1.38	1.74
6-4	3/8-18	1/4-18	2.19	1.38	1.69
6-6	3/8-18	3/8-18	2.19	1.38	1.74
8-8	1/2-14	1/2-14	2.47	1.56	1.92
12-12	3/4-14	3/4-14	3.12	1.91	2.31
16-16	1 -11 1/2	1 -11 1/2	3.65	2.32	2.74
20-20	1 1/4-11 1/2	1 1/4-11 1/2	4.52	2.75	3.38



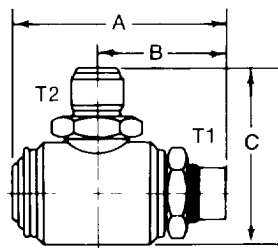
Part No. S2303- (Dash size)
Male JIC 37° Flare Stem -
Male JIC 37° Flare Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
4-4	7/16-20	7/16-20	2.30	1.47	2.12
4-5	7/16-20	1/2-20	2.30	1.47	2.12
4-6	7/16-20	9/16-18	2.30	1.47	2.12
4-8	7/16-20	3/4-16	2.30	1.47	2.21
5-4	1/2-20	7/16-20	2.30	1.47	2.12
5-5	1/2-20	1/2-20	2.30	1.47	2.12
5-6	1/2-20	9/16-18	2.30	1.47	2.13
8-8	3/4-16	3/4-16	2.63	1.72	2.33
10-10	7/8-14	7/8-14	2.63	1.72	2.51
12-12	1 1/16-12	1 1/16-12	3.33	2.12	3.04
16-16	1 5/16-12	1 5/16-12	4.08	2.69	3.47
20-20	1 5/8 -12	1 5/8 -12	5.08	3.33	4.21



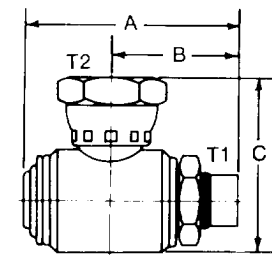
Part no S2307- (Dash size)
Male JIC 37° Flare Stem -
Female Pipe Swivel Nut Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
5-4	1/2-20	1/4-18	2.30	1.47	1.69
8-6	3/4-16	3/8-18	2.41	1.58	1.79
10-8	7/8-14	1/2-14	2.63	1.72	1.91
12-12	1 1/16-12	3/4-14	3.33	2.12	2.31
16-16	1 5/16-12	1 -11 1/2	4.08	2.69	2.74
20-20	1 5/8 -12	1 1/4-11 1/2	5.08	3.33	3.37



Part no. S2503- (Dash size)
Straight Thread With O Ring Stem -
Male JIC 37° Flare Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
5-5	1/2-20	1/2-20	2.08	1.28	2.12
8-8	3/4-16	3/4-16	2.40	1.50	2.33
10-10	7/8-14	7/8-14	2.54	1.64	2.51
12-12	1 1/16-12	1 1/16-12	3.38	2.17	3.04
16-16	1 5/16-12	1 5/16-12	3.70	2.38	3.47
20-20	1 5/8 -12	1 5/8 -12	4.72	2.96	4.21



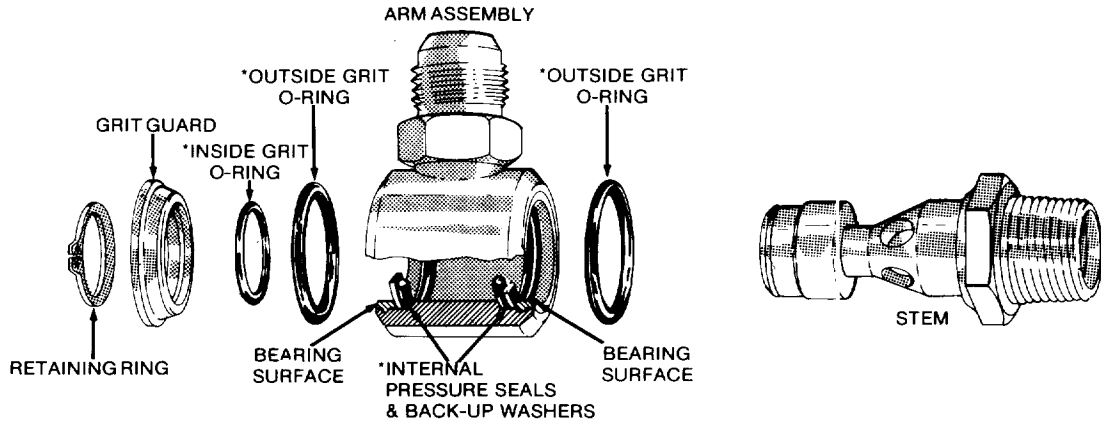
Part no. S2507- (Dash size)
Straight Thread With O Ring Stem -
Female Pipe Swivel Nut Arm

Dash Size (Steel)	T ₁	T ₂	A	B	C
5-4	1/2-20	1/4-18	2.08	1.28	1.69
8-6	3/4-16	3/8-18	2.03	1.42	1.73
10-8	7/8-14	1/2-14	2.54	1.64	1.91
12-12	1 1/16-12	3/4-14	3.38	2.17	2.31
16-16	1 5/16-12	1 -11 1/2	3.70	2.38	2.74
20-20	1 5/8 -12	1 1/4-11 1/2	4.72	2.96	3.37

Hose Adapters

360° Swivels

Replacement Seal Kits for Hydraulic Swivels



*Complete Kit Includes: 2 arm O-rings, 2 back-up washers, 3 grit O-rings and 1 retaining ring.

Buna-N Seal Kit (Standard Seals)

Applications: Hydraulic fluids, mineral oil, water and pneumatic service.

Kit Number	For Swivel Size
SK-4/6	-4 & -6
SK-8	-8
SK-12	-12
SK-16	-16
SK-20	-20

EPR Seal Kit¹

Applications: Steam, Water, Skydrol and other phosphate ester base fluids.

Kit Number	For Swivel Size
SKE-4/6	-4 & -6
SKE-8	-8
SKE-12	-12
SKE-16	-16
SKE-20	-20

Viton Seal Kit²

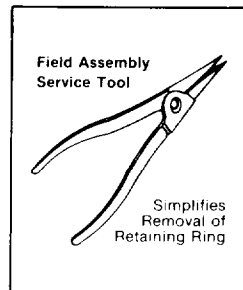
Applications: High Temperature Oils, Aromatic Solvents, Chemical Service.

Kit Number	For Swivel Size
SKV-4/6	-4 & -6
SKV-8	-8
SKV-12	-12
SKV-16	-16
SKV-20	-20

How to order Hydraulic Swivels with factory pre-assembled EPR or Viton Seals

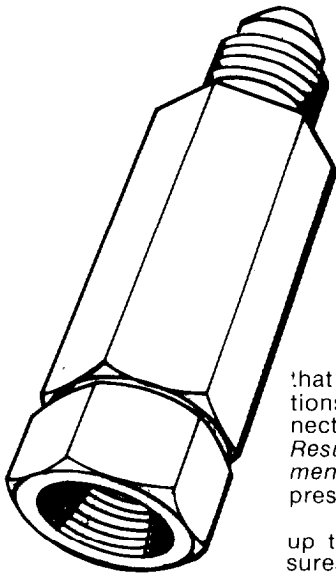
¹ For EPR seals add letter "E" to hydraulic swivel part number. Example: S2107E-6-6

² For Viton seals add letter "V" to hydraulic swivel part number. Example: S2107V-6-6



Field Assembly Service Tool
Simplifies removal of retaining ring.

Part Number	For Swivel Size
FP-2200	-4 to -8
FP-2400	-12 to -16
FP-2600	-20



**Full
360°
Swivel
Action**

Swivels feature 360° swiveling action that especially suits them for use in applications where hose moves or twists. Swivels connected to hose assemblies relieve twisting. *Results: longer hose life and reduced equipment downtime.* Engineered to operate at pressures up to 2500 psi for all sizes, the Swivels can be used with hoses rated up to and including 2500 psi working pressures.

Features:

Temperature: -40°F. to +200°F.; -40°C. to +94°C.

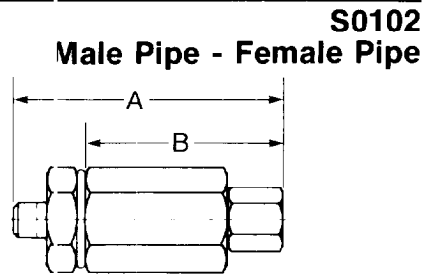
Working Pressure: Up to 2500 psi (10 r.p.m. max.)

Low Torque: Micro-finished shafts and carbon-filled teflon back-up washers provide minimum torque.

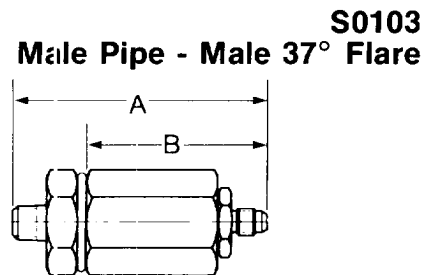
Special Seal Assembly: Patented "vented" bearing design made of a long-wearing alloy prevents o-r ng twist and wear for long seal life.

Dust Sealing: External grit o-ring guards efficiently against dust, foreign material and other contaminants.

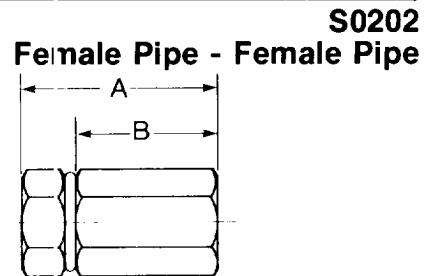
Part No.	Male Pipe	Female Pipe	A	B
S0102-4-4	1/4	1/4	3.33	2.15
S0102-6-6	3/8	3/8	3.33	2.15
S0102-8-8	1/2	1/2	3.74	2.38



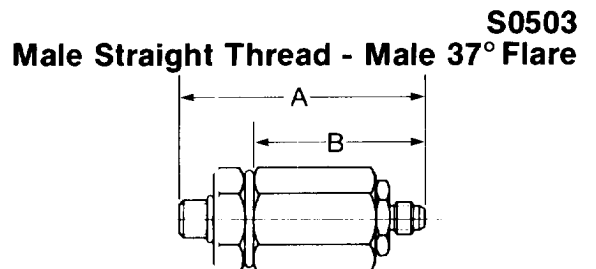
Part No.	Male Pipe	SAE (JIC) Male	A	B
S0103-4-4	1/4	7/16-20	3.60	2.43
S0103-6-6	3/8	9/16-18	3.56	2.38
S0103-8-8	1/2	3/4-16	3.82	2.46



Part No.	Female Pipe	Female Pipe	A	B
S0202-8-8	1/2	1/2	3.19	2.38



Part No.	Straight Thread	SAE (JIC) Male	A	B
S0503-4-4	7/16-20	7/16-20	3.40	2.43
S0503-6-6	9/16-18	9/16-18	3.39	2.38
S0503-8-8	3/4-16	3/4-16	3.51	2.46



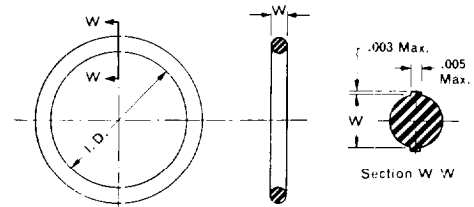
Accessories

O-Rings 4-Bolt Flange Port Dimensions

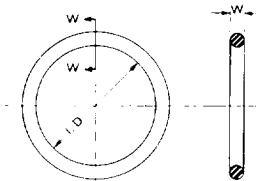
O-Rings

Part No.	SAE Thread Size	W	I.D.
711509-1 <small>was (3-4)</small>	7/16-20 (-4)	.072 ± .003	.351 ± .005
711509-2 <small>was (3-5)</small>	1/2-20 (-5)	.072 ± .003	.414 ± .005
711509-3 <small>was (3-6)</small>	9/16-18 (-6)	.078 ± .003	.468 ± .005
711509-4 <small>was (3-8)</small>	3/4-16 (-8)	.087 ± .003	.644 ± .005
711509-5 <small>was (3-10)</small>	7/8-14 (-10)	.097 ± .003	.755 ± .005
711509-6 <small>was (3-12)</small>	1 1/16-12 (-12)	.116 ± .004	.924 ± .006
711509-7 <small>was (3-16)</small>	1 5/16-12 (-16)	.116 ± .004	1.171 ± .010
711509-8 <small>was (3-20)</small>	1 5/8-12 (-20)	.118 ± .004	1.475 ± .010
711509-9 <small>was (3-24)</small>	1 7/8-12 (-24)	.118 ± .004	1.720 ± .010
711509-10 <small>was (3-32)</small>	2 1/2-12 (-32)	.118 ± .004	2.337 ± .018
711509-11 <small>was (3-14)</small>	1 13/16-12 (-14)	.116 ± .004	1.047 ± .010
711509-12 <small>was (3-3)</small>	3/8-24 (-3)	.064 ± .003	.301 ± .005

**For 05 Ends and Adapters
(Compound N552-9)***



**For Flange Ends
(Compound N552-9)***



*For use with petroleum base fluids. other compounds available for phosphate ester fluids on special order.

Part No.	Flange Size	W	I.D.
711510-6 <small>was (2-210)</small>	1/2 (-8)	.139	.734
711510-5 <small>was (2-214)</small>	3/4 (-12)	.139	.984
711510-4 <small>was (2-219)</small>	1 (-16)	.139	1.296
711510-3 <small>was (2-222)</small>	1 1/4 (-20)	.139	1.484
711510-2 <small>was (2-225)</small>	1 1/2 (-24)	.139	1.859
711510-1 <small>was (2-228)</small>	2 (-32)	.139	2.234

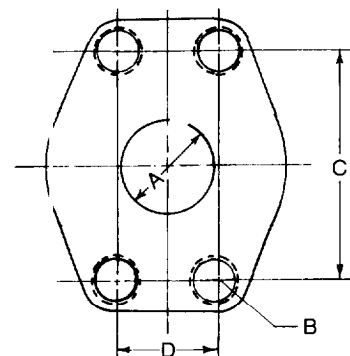
Port Dimensions for 4-Bolt Split Flanges

Standard Pressure Code 61

Nominal Flange Size	Flange Dash Size	A Dia. Max.		B Thread	C		D		Maximum Recommended Working Pressure	
		in	mm		±0.010 in	±0.25 mm	±0.010 in	±0.25 mm	psi	MPa
1/2"	-8	.050	13	5/16-18	1.500	38.10	0.688	17.48	5000	34.5
3/4"	-12	.075	19	3/8-16	1.875	47.63	0.875	22.23	5000	34.5
1"	-16	1.00	25	3/8-16	2.062	52.37	1.031	26.19	5000	34.5
1 1/4"	-20	1.25	32	7/16-14	2.312	58.72	1.188	30.18	4000	27.6
1 1/2"	-24	1.50	38	1/2-13	2.750	69.85	1.406	35.71	3000	20.7
2"	-32	2.00	51	1/2-13	3.062	77.77	1.688	42.88	3000	20.7

High Pressure Code 62

Nominal Flange Size	Flange Dash Size	A Dia. Max.		B Thread	C		D		Maximum Recommended Working Pressure	
		in	mm		±0.010 in	±0.25 mm	±0.010 in	±0.25 mm	psi	MPa
1"	-16	1.00	25	7/16-14	2.250	57.15	1.093	27.76	6000	41.4
1 1/4"	-20	1.25	32	1/2-13	2.625	66.68	1.250	31.75	6000	41.4
1 1/2"	-24	1.50	38	5/8-11	3.125	79.38	1.437	36.50	6000	41.4
2"	-32	2.00	51	3/4-10	3.812	96.82	1.750	44.45	6000	41.4



There are two non-interchangeable SAE split flanges:

Standard or Code 61 is for 3,000 to 5,000 psi. maximum, depending upon size.

High Pressure or Code 62 is for 6,000 psi. maximum, regardless of size.

Consult these tables to determine flange halves and flange kits required.

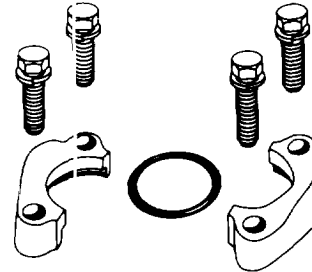
Flanges

Accessories

Flange Kits and Flange Halves Code 61 - Standard Pressure

Kit Part No.	Flange Size	Maximum Working Pressure P.S.I.	Flange Half (2)	Component Parts		Lock-washers (4)
				O-Ring (1)	Bolts (4)	
5151HK-8	1/2	5,000	51H-8	711510-6	5/16-18x1 1/4"	5/16
5151HK-12	3/4	5,000	51H-12	711510-5	3/8-16x1 1/4"	3/8
5151HK-16	1	5,000	51H-16	711510-4	3/8-16x1 1/4"	3/8
5151HK-20	1 1/4	4,000	51H-20	711510-3	7/16-14x1 1/4"	7/16
5151HK-24	1 1/2	3,000	51H-24	711510-2	1/2-13x1 1/2"	1/2
5151HK-32	2	3,000	51H-32	711510-1	1/2-13x1 1/2"	1/2

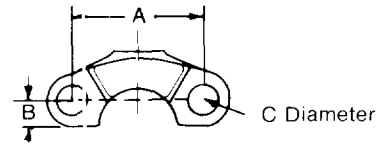
5151HK SAE Flange Kit



Kit Includes: 2 flange halves, 1 O-ring and 4 bolts and washers.

Part No.	SAE Flange Size	A	B	C	Max. Working Press. PSI
51H-8	1/2	1.50	.34	.34	5,000
51H-12	3/4	1.88	.44	.41	5,000
51H-16	1	2.06	.52	.41	5,000
51H-20	1 1/4	2.31	.59	.47	4,000
51H-24	1 1/2	2.75	.70	.53	3,000
51H-32	2	3.06	.84	.53	3,000

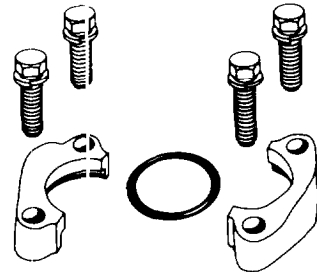
51H SAE Flange Half



***Flange Kits and Flange Halves Code 62 - High Pressure**

Kit Part No.	Flange Size	Maximum Working Pressure P.S.I.	Flange Half (2)	Component Parts		Lock-Washers (4)
				O-Ring (1)	SAE Grade 8 Bolts (4)	
HFHFHK-16	1	6,000	HFH-16	711510-4	7/16-14x1 3/4"	7/16
HFHFHK-20	1 1/4	6,000	HFH-20	711510-3	1/2-13x1 3/4"	1/2
HFHFHK-24	1 1/2	6,000	HFH-24	711510-2	5/8-11x2 1/4"	5/8
HFHFHK-32	2	6,000	HFH-32	711510-1	3/4-10x2 3/4"	3/4"

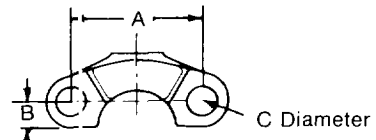
HFHFHK SAE Flange Kit



Kit Includes: 2 flange halves, 1 O-ring and 4 SAE grade 8 bolts and washers.

Part No.	SAE Flange Size	A	B	C	Max. Working Press. PSI
HFH-12	3/4	2.00	.43	.40	6,000
HFH-16	1	2.25	.50	.47	6,000
HFH-20	1 1/4	2.6	2.58	.53	6,000
HFH-24	1 1/2	3.12	.67	.66	6,000
HFH-32	2	3.81	.83	.78	6,000

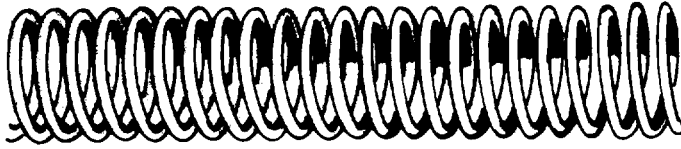
HFH SAE Flange Half



*NOTE: High pressure applications also require the use of Code 62 Flange End Hose Fittings - See 76 Series **Page A-92.**

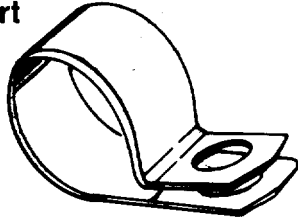
Accessories

SG SPRING GUARDS



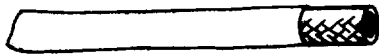
spring guards prolong the life of hose lines that are exposed to rugged operating conditions. They distribute bending radii to avoid kink in hose lines and protect hose from abrasion and deep cuts. Guards are constructed of steel wire and are plated to resist rust.

CL Hose Support Clamps



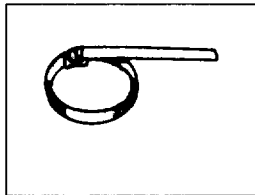
Vinyl coated steel clamps provide hose support where long lengths are used. Provides neater installation of hose lines, minimizes hose chafing, prevents damage to hose.

FS4 Firesleeves



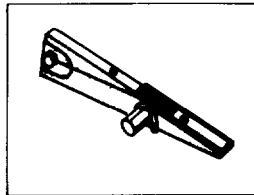
firesleeve is a flame resistant rubber impregnated asbestos sheathing that protects hose from extreme temperature conditions.

Firesleeve Accessories



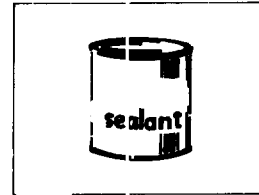
FSC Clamp

Used to attach firesleeve around socket on all size hose lines.



FST Clamp Tool

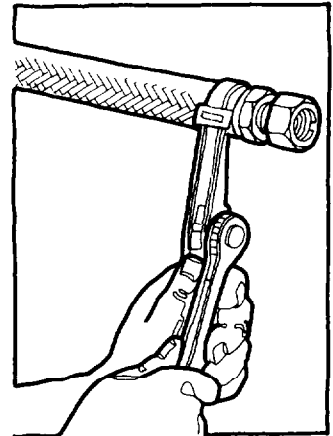
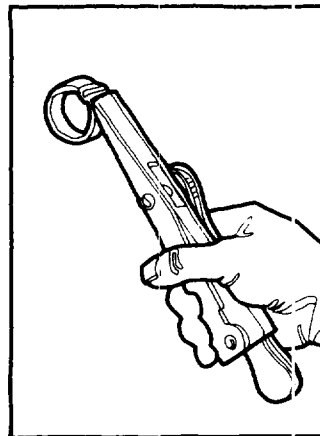
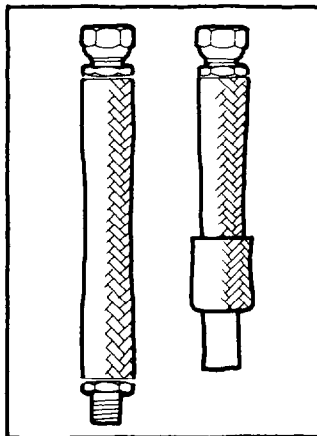
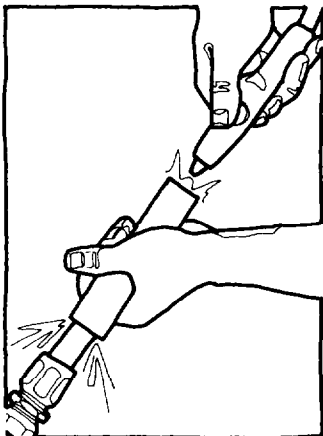
Used to secure FSC clamp.



Firesleeve Sealant

Keeps ends of firesleeve from fraying - for neater, longer lasting installation.

Firesleeve Assembly Instructions



1. Assemble one end fitting on hose. Cut firesleeve to same length as hose. Dip each end of firesleeve into FSS sealant approximately 1" and allow to dry. Slide firesleeve over the cut end of the hose. Use air as an assist, if available.
2. Push firesleeve back from cut end of hose and assemble the second end fitting. Then pull firesleeve completely over both sockets.
3. Insert tail of FSC clamp into FST clamping tool.
4. Position clamp around middle of socket and tighten with tool. Bend end of band back over buckle. Repeat on other end. Repair any scuffs or abrasions in firesleeve with sealant.

Accessories

Hose Series & Types	Hose I.D.	Hose Dash Size	Hose O.D.	Part Number		
				Spring Guard	Firesleeve	Hose Support Clamp
20 Series Hose Types	3/16	(-4)	.52	20SG-4	FS4-11	CL-9
201, 204, 221, 241, 231	1/4	(-5)	.58	20SG-5	FS4-12	CL-11
235, 261, SS25, SS25UL	5/16	(-6)	.67	20SG-6	FS4-14	CL-12
2LPG	13/32	(-8)	.77	20SG-8	FS4-16	CL-13
	1/2	(-10)	.92	20SG-10	FS4-18	CL-16
	5/8	(-12)	1.08	20SG-12	FS4-20	CL-19
	7/8	(-16)	1.23	20SG-16	FS4-24	CL-21
	1 1/8	(-20)	1.50	20SG-20	—	CL-25
	1 3/8	(-24)	1.75	—	—	CL-29
	1 13/16	(-32)	2.22	—	—	CL-37
	2 3/8	(-40)	2.88	—	—	—
30 Series Hose Types	3/16	(-3)	.53	—	FS4-11	CL-9
301, 304, 305, 381	1/4	(-4)	.59	30SG-4	FS4-12	CL-9
	3/8	(-6)	.75	30SG-6	FS4-14	CL-13
	1/2	(-8)	.87	30SG-8	FS4-16	CL-14
	3/4	(-12)	1.17	30SG-12	FS4-24	CL-19
	1	(-16)	1.50	30SG-16	FS4-30	CL-25
	1 1/4	(-20)	1.87	30SG-20	—	CL-29
	1 1/2	(-24)	2.13	—	—	CL-35
	2	(-32)	2.63	—	—	CL-43
34 Series Hose Types	3/8	(-6)	.75	34SG-6	FS4-16	CL-14
341, 344	1/2	(-8)	.88	34SG-8	FS4-18	CL-16
	3/4	(-12)	1.16	34SG-12	FS4-24	CL-21
	1	(-16)	1.50	34SG-16	FS4-30	CL-25
42 Series Hose Types	3/16	(-3)	.47	—	FS4-11	CL-7
421	1/4	(-4)	.53	42SG-4	FS4-12	CL-9
	5/16	(-5)	.59	42SG-5	FS4-12	CL-9
	3/8	(-6)	.69	42SG-6	FS4-14	CL-12
	13/32	(-6.5)	.72	42SG-6.5	FS4-14	CL-13
	1/2	(-8)	.81	42SG-8	FS4-16	CL-14
	3/4	(-12)	1.09	42SG-12	FS4-20	CL-19
	1	(-16)	1.41	42SG-16	FS4-30	CL-23

Accessories

Hose Series & Types	Hose I.D.	Hose Dash Size	Hose O.D.	Part Number		
				Spring Guard	Firesleeve	Hose Clamp
51 Series Hose Types	$\frac{3}{16}$	(-3)	.42	—	—	CL-7
510A, 518A.	$\frac{1}{4}$	(-4)	.45	—	—	CL-7
	$\frac{5}{16}$	(-5)	.56	—	—	CL-11
	$\frac{3}{8}$	(-6)	.62	—	—	CL-11
	$\frac{1}{2}$	(-8)	.80	—	—	CL-13
	$\frac{3}{4}$	(-12)	1.07	—	—	CL-19
	1	(-16)	1.35	—	—	CL-23
74 Series Hose Types	$\frac{3}{4}$	(-12)	1.25	74SG-12	—	CL-21
741	1	(-16)	1.56	74SG-16	—	CL-25
	$1\frac{1}{4}$	(-20)	2.00	74SG-20	—	CL-33
	$1\frac{1}{2}$	(-24)	2.25	—	—	CL-37
75 Series Hose Types	1	(-16)	1.75	75SG-16	—	CL-29
751, 754	$1\frac{1}{4}$	(-20)	2.00	75SG-20	—	CL-33
	$1\frac{1}{2}$	(-24)	2.25	75SG-24	—	CL-37
	2	(-32)	2.75	75SG-32	—	CL-43
82 Series Hose Types	$\frac{1}{4}$	(-4)	.50	—	FS4-11	CL-4
801, 821, 831	$\frac{3}{8}$	(-6)	.62	—	FS4-11	CL-11
	$\frac{1}{2}$	(-8)	.75	—	FS4-14	CL-13
	$\frac{5}{8}$	(-10)	.91	—	FS4-16	CL-16
	$\frac{3}{4}$	(-12)	1.03	—	FS4-18	CL-19
88 Series Hose Types	$\frac{3}{4}$	(-12)	1.30	88SG-12	—	CL-23
881	1	(-16)	1.56	88SG-16	—	CL-25
	$1\frac{1}{4}$	(-20)	1.86	88SG-20	—	CL-29
	$1\frac{1}{2}$	(-24)	2.14	—	—	CL-35
	2	(-32)	2.69	—	—	CL-43
90 Series Hose Types	$\frac{3}{16}$	(-4)	.31	—	FS4-11	CL-6
909, 919	$\frac{1}{4}$	(-5)	.38	—	FS4-11	CL-7
	$\frac{5}{16}$	(-6)	.44	—	FS4-11	CL-7
	$\frac{13}{32}$	(-8)	.53	—	FS4-12	CL-9
	$\frac{1}{2}$	(-10)	.63	—	FS4-14	CL-11
	$\frac{5}{8}$	(-12)	.75	—	FS4-16	CL-13
	$\frac{7}{8}$	(-16)	1.03	—	FS4-20	CL-19
	$1\frac{1}{8}$	(-20)	1.28	—	FS4-24	CL-21

**Couplers
Nipples**

**Quick Disconnect
Couplings**

Couplers		NPT Male Pipe Thread Ends Figure A		NPT Female Pipe Thread Ends Figure B		Push-Lok Hose Ends Figure C	
Coupler Body Size		Thread Size	Coupler Part No. Steel	Thread Size	Part No. Steel	Hose I.D.	Part No. Steel
1/4	Will Connect With All 1/4 Size Nipples	1/8 1/4 3/8	22A 22 22E	1/8 1/4 3/8	23A 23 23E	— 1/4 3/8	— 20-3BP 20-5BP
3/8	Will Connect With All 3/8 Size Nipples	1/4 3/8 1/2	24C 24 24F	1/4 3/8 1/2	25C 25 25F	1/4 3/8 1/2	24-3BP 24-5BP 24-6BP
1/2	Will Connect With All 1/2 Size Nipples	3/8 1/2 3/4	16E 16 16G	3/8 1/2 3/4	17E 17 17G	3/8 1/2 —	16-5BP 16-6BP —

Coupler Body Size	Figure A Male Pipe Thread Ends				Figure B Female Pipe Thread Ends				Figure C Push-Lok-Hose Ends			
	Part No. Steel	NPT Thd. Size	Dimensions Inches		Part No. Steel	NPT Thd. Size	Dimensions Inches		Part No. Steel	Dimensions Inches		
			A	B			A	B		A	B	C
1/4	22A	1/8	1.89	.88	23A	1/8	1.83	.88	—	—	—	—
	22	1/4	2.05	.88	23	1/4	1.83	.88	20-3BP	2.31	.88	.81
	22E	3/8	2.08	.88	23E	3/8	1.89	.88	20-5BP	2.47	.88	.95
3/8	24C	1/4	2.36	1.06	25C	1/4	2.22	1.06	24-3BP	2.72	1.06	1.81
	24	3/8	2.39	1.06	25	3/8	2.28	1.06	24-5BP	2.88	1.06	.95
	24F	1/2	2.55	1.06	25F	1/2	2.55	1.06	24-6BP	2.98	1.06	1.09
1/2	16E	3/8	2.95	1.19	17E	3/8	2.73	1.19	16-5BP	3.38	1.19	.95
	16	1/2	3.08	1.19	17	1/2	2.95	1.19	16-16BP	3.35	1.19	1.09
	16G	3/4	3.20	1.30	17G	3/4	3.19	1.44	—	—	—	—

Nipples		NPT Male Pipe Thread Ends Figure D		NPT Female Pipe Thread Ends Figure E		Push-Lok Hose Ends Figure F	
Nipple Size		Thread Size	Nipple Part No. Steel	Thread Size	Part No.	Hose I.D.	Part No.
1/4	Will Connect With All 1/4 Size Coupler Bodies	1/8 1/4 3/8	H0C H2C H2C-E	1/8 1/4 3/8	H1C H3C H3C-E	1/4 3/8	H8CP H9CP
3/8	Will Connect With All 3/8 Size Coupler Bodies	1/8 1/4 3/8	H00-E H0-E H2E	1/8 1/4 3/8	H01E H1-E H3E	1/4 3/8 1/2	H4EP H5EP H6EP
1/2	Will Connect With All 1/2 Size Coupler Bodies	3/8 1/2 3/4	H0F H2F H2F-G	3/8 1/2 3/4	H1F H3F H3F-G	3/8 1/2	H4FP H5FP

Nipple Size	Figure D Male Pipe Thread Ends				Figure E Female Pipe Thread Ends				Figure F Push-Lok Hose Ends			
	Part No. Steel	Dimensions Inches			Part No. Steel	Dimensions Inches			Part No. Steel	Dimensions Inches		
		A	B	C		A	B	C		A	B	C
1/4	H0C	1.56	.58	.94	H1C	1.38	.58	.94	—	—	—	
	H2C	1.72	.65	.94	H3C	1.50	.72	.94	H8CP	1.92	.69	.94
	H2C-E	1.81	.79	.94	H3C-E	1.59	.94	.94	H9CP	2.08	.86	.94
3/8	H00-E	1.72	.72	1.03	H01E	1.38	.72	1.03	H4EP	2.03	.69	1.03
	H0-E	1.88	.72	1.03	H1-E	1.59	.72	1.03	H5EP	2.17	.86	1.03
	H2E	1.91	.79	1.03	H3E	1.69	.94	1.03	H6EP	2.31	.97	1.03
1/2	H0F	2.31	.79	1.38	H1F	2.03	.94	1.38	H4FP	2.52	.86	1.38
	H2F	2.47	1.01	1.38	H3F	2.25	1.15	1.38	H5FP	2.66	.97	1.38
	H2F-G	2.53	1.30	1.38	H3F-G	2.38	1.44	1.38	—	—	—	—

Fig. A

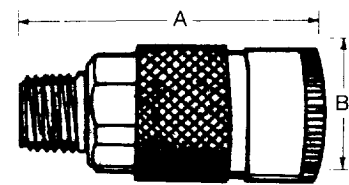


Fig. B

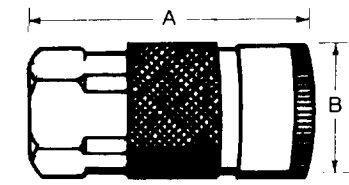
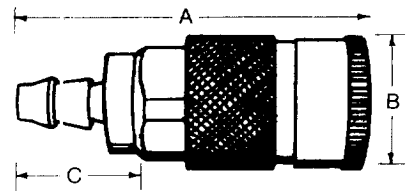


Fig. C



The Industrial Interchange design is manufactured in a variety of combinations to meet most popular requirements of modern pneumatics applications. These heavy duty, sleeve type couplers are interchangeable with many other pneumatic quick disconnects. The Push-lok barbed stem end fitting configuration, designed for use with Push-lok self grip hose, eliminates the need for hose clamps or wire clips. This means convenient, easy-to-make, quick connections. Maximum pressure rating for all single shut-off couplings is 300 psi air.

Safety:

Protective collar insures against accidental disconnect. Coupler is connected by pulling sleeve back and pushing insert nipple into coupler body.

Fig. D

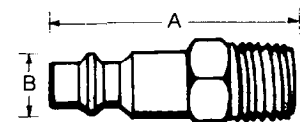


Fig. E

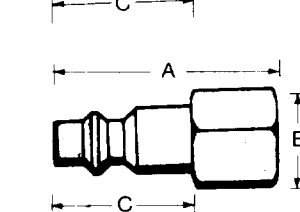
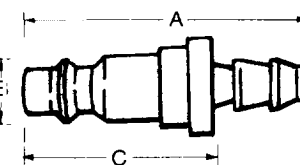


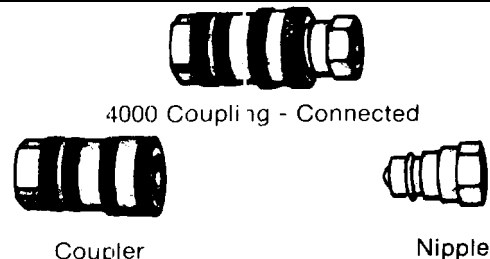
Fig. F



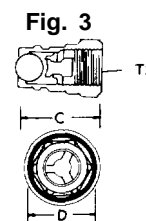
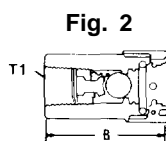
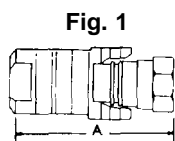
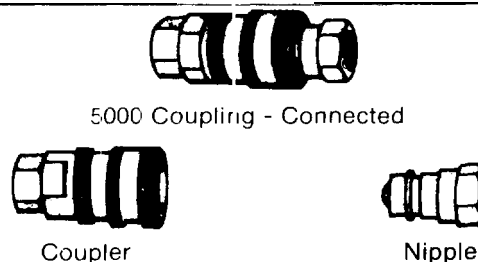
Quick Disconnect Couplings

TM 9-4940-544-14&P
4000 Series
5000 Series

4000 Series — couplers are recommended for hydraulic applications that do not require recoupling under pressure. These couplers are available in all popular sizes for industrial hydraulic applications up to 2,500 operating PSI. The 3/4" Hi-Flo model permits oil flows of 35 GPM. All sizes snap together easily for leakproof performance and are available with either NPTF pipe threads or SAE STRAIGHT THREAD CONNECTIONS.



5000 Series — couplers are recommended for applications where tools must be recoupled under trapped pressure. Maximum fluid flow is achieved with minimum turbulence. For example, the 1/2" model operates at less than 15 PSI pressure drop at 10 GPM flow. Parts are plated for corrosion resistance and all working parts are hardened for long life and durability. Seals are metal-to-metal for positive shut-off.



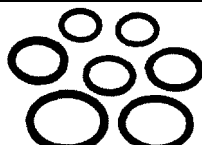
Complete Coupling Part No. Fig. 1	THREAD SIZE		Recom. Maximum Operating PSI	COMPONENT PARTS			ACCESSORIES		DIMENSIONAL DATA (In Inches)			
	Coupler T ₁ Female NPTF	Nipple T ₂ Female NPTF		Coupler Fig. 2	Nipple Fig. 3	O-Ring	Dust Plug	Dust Cap	A	B	C	D Dia.
4000-2	1/4-18	1/4-18	2200	4050-2	4010-2	0-11	5205-2	5209-2	2.50	1.94	1.25	1.06
4000-3	3/8-18	3/8-18	2500	4050-3	4010-3	0-14	5205-3	5209-3	3.00	2.31	1.50	1.31
4000-4	1/2-14	1/2-14	2500	4050-4	8010-4	0-16	5005-4	5009-4	3.63	2.60	1.81	1.50
4000-5	3/4-14	3/4-14	2500	4050-5	8010-5	0-16	5005-4	5009-4	3.69	2.69	1.88	1.50
4100-5* (Hi-Flow)	3/4-14	3/4-14	2000	4150-5	4110-5	0-20	5205-5	5209-5	4.56	3.50	2.31	1.88
4000-6P	1 -11 1/2	1 -11 1/2	2000	4050-6P	4010-6P	0-23	5205-6	5209-6	5.13	3.75	2.56	2.06
4000-15	3/4-16*	3/4-16*	2500	4050-15	8010-15	0-16	5005-4	5009-4	3.88	2.81	1.94	1.50
4000-16	7/8-14*	7/8-14*	2500	4050-16	8010-16	0-16	5005-4	5009-4	3.75	2.75	1.88	1.50
5000-4	1/2-14	1/2-14	2200	5050-4	8010-4	0-16	5005-4	5009-4	3.81	2.88	1.81	1.50
5000-4-5	3/4-14	3/4-14	2200	5050-4-5	8010-5	0-16	5005-4	5009-4	4.63	3.63	1.88	1.50

Complete coupling includes a coupler and nipple, either of which may also be purchased separately in the various sizes. Both halves seal tightly when uncoupled, open automatically when coupled.

*Flows to 35 GPM.

O-Ring Seals

Special oil-resistant synthetic materials are easy and inexpensive to replace in couplers.



Dust Plugs and Dust Caps

Keep dirt out of your equipment by using dust plugs and dust caps on your couplers when they are not in use.



How To Order

hose adapter part numbers are made up of three basic components:

Base Number

The base number indicates the thread style and configuration of the adapter by combining the appropriate two digit end configuration numbers. A list of the most popular ends is shown at lower right.

Dash Size

This is one or more numbers following the base number, used to indicate end sizes in sixteenths ($\frac{1}{16}$) of an inch. The first dash size always refers to the first component of the base number and the second dash size always refers to the second component.

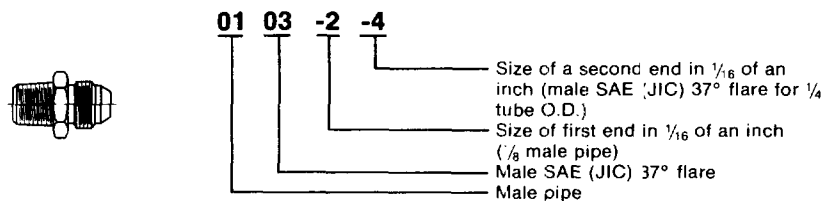
Material Design

Materials are indicated by a letter suffix added at the end of the part number according to the following code:

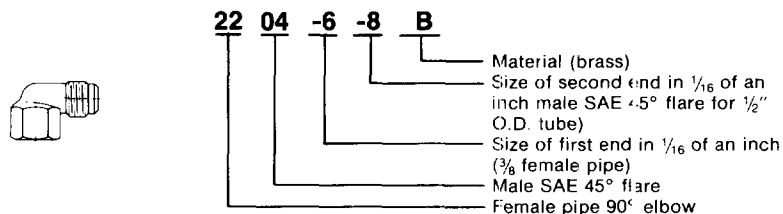
Steel (Cadmium plated)	No suffix
Brass	B
316 Stainless Steel	C

Examples

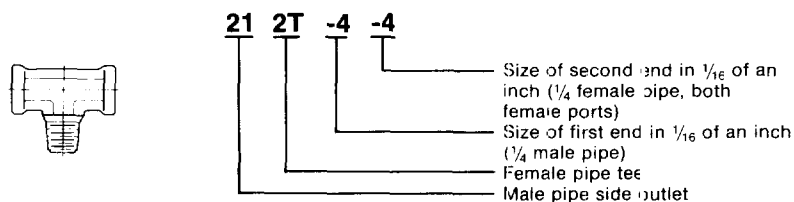
1 Straight adapter, male pipe to male SAE (JIC) 37° flare (steel)



2 90° elbow, female pipe to male SAE 45° flare (brass)



3 Female pipe tee with male pipe branch (steel)



Part Number Components of Most Popular Adapter End Configurations

01 - Male pipe (NPTF)
 02 - Female pipe (NPTF)
 03 - Male SAE (JIC) 37° flare
 04 - Male SAE 45° flare
 05 - Male SAE straight thread with "O" ring
 06 - Female SAE (JIC) 37° swivel
 07 - Female pipe swivel (NPSM)
 15 - SAE flange

21 - Male pipe 90° elbow (or side outlet)
 22 - Female pipe 90° elbow (or side outlet)
 25 - Straight thread 90° elbow with "O" ring (or side outlet)
 2T - Female pipe tee
 31 - Male pipe 45° elbow
 35 - Straight thread 45° elbow
 37 - SAE (JIC) 37° swivel 45° elbow

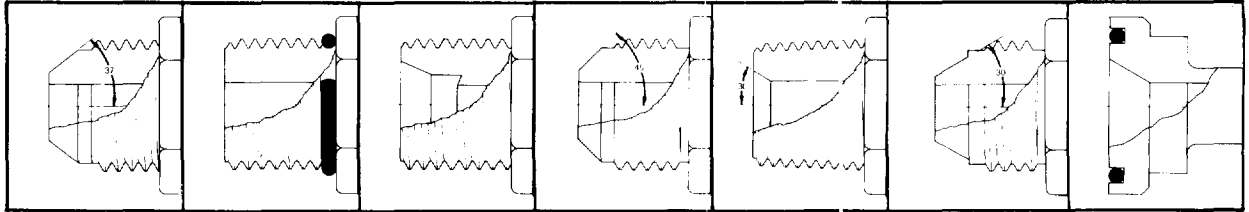
30 - SAE (JIC) 37° swivel 90° elbow (or side outlet)
 37 - Male (JIC) 37° flare tee
 50 - Bulkhead male SAE (JIC) 37° flare locknut

Note: Many adapters are available from stock in 316 Stainless Steel.

Hose Adapters

Hose Adapter Threads

Hose Adapter Thread Guide



Dash Size	SAE (JIC) 37° Flare Thread Size	“O” Ring Style Straight Thread Size	SAE Flareless Thread Size	SAE 45° Flare Thread Size	NPTF and NPSM Pipe Thread Size	PTT 30° Flare Thread Size	SAE Flange Size
2	5/16-24	5/16-24	5/16-24	5/16-24	1/8-27	—	—
3	3/8 -24	3/8 -24	3/8 -24	3/8 -24	—	—	—
4	7/16-20	7/16-20	7/16-20	7/16-20	1/4-18	—	—
5	1/2 -20	1/2 -20	1/2 -20	1/2 -20	—	—	—
6	9/16-18	9/16-18	9/16-18	5/8 -18	3/8-18	—	—
8	3/4 -16	3/4 -16	3/4 -16	3/4 -16	1/2-14	—	1/2
10	7/8 -14	7/8 -14	7/8 -14	7/8 -14	—	—	—
12	1 1/16-12	1 1/16-12	1 1/16-12	1 1/16-14	3/4-14	—	3/4
14	1 3/16-12	1 3/16-12	1 3/16-12	—	—	—	—
16	1 5/16-12	1 5/16-12	1 5/16-12	—	1 -11 1/2	1 5/16-14	1
20	1 5/8 -12	1 5/8 -12	1 5/8 -12	—	1 1/4-11 1/2	1 5/8 -14	1 1/4
24	1 7/8 -12	1 7/8 -12	1 7/8 -12	—	1 1/2-11 1/2	1 7/8 -14	1 1/2
32	2 1/2 -12	2 1/2 -12	2 1/2 -12	—	2 -11 1/2	2 1/2 -12	2

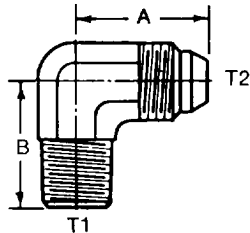
SAE (JIC) 37° Flare

Hose Adapters

SAE (JIC) 37° flare adapters with a wide variety of pipe, swivel nut and straight thread ends are available in the full size range of 2 thru 32 (1/8 inch thru 2 inch O.D. tubing). Steel adapters are furnished calcium plated and are made from close grained non-porous steel forgings or steel bar stock. Most shapes and sizes are also available in brass or type 316 stainless steel.

These adapters conform to the Hydraulic Tube Fitting Standard as published in J514 of the Society of Automotive Engineers Handbook and to specifications of the former Joint Industry Conference on Hydraulic Standards for Industrial Equipment.

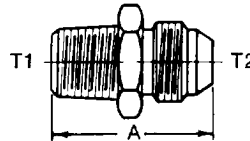
Male 90° Elbow



Part No. 2103 - (Dash size)
Male SAE (JIC) 37° Flare - Male Pipe

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	B
2-2	1/8-27	5/16-24	1/8	.77	.72
2-3	1/8-27	3/8-24	3/16	.83	.72
2-4	1/8-27	7/16-20	1/4	.89	.78
4-4	1/4-18	7/16-20	1/4	1.05	1.09
2-5	1/8-27	1/2-20	5/16	.95	.78
4-5	1/4-18	1/2-20	5/16	1.05	1.09
4-6	1/4-18	9/16-18	3/8	1.06	1.09
2-6	1/8-27	9/16-18	3/8	1.06	.88
6-6	3/8-18	9/16-18	3/8	1.14	1.22
8-6	1/2-14	9/16-18	3/8	1.23	1.44
6-8	3/8-18	3/4-16	1/2	1.25	1.22
4-8	1/4-18	3/4-16	1/2	1.25	1.16
8-8	1/2-14	3/4-16	1/2	1.34	1.47
12-8	3/4-14	3/4-16	1/2	1.42	1.59
8-10	1/2-14	7/8-14	5/8	1.45	1.47
6-10	3/8-18	7/8-14	5/8	1.45	1.30
12-10	3/4-14	7/8-14	5/8	1.53	1.59
12-12	3/4-14	1 1/16-12	3/4	1.66	1.59
8-12	1/2-14	1 1/8-12	3/4	1.66	1.56
12-14	3/4-14	1 3/16-12	7/8	1.73	1.69
16-16	1 -11 1/2	1 5/16-12	1	1.81	1.97
12-16	3/4-14	1 5/16-12	1	1.81	1.72
20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	2.06	2.38
16-20	1 -11 1/2	1 5/8-12	1 1/4	2.06	2.06
24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	2.33	2.64
32-32	2 -11 1/2	2 1/2-12	2	3.06	3.00

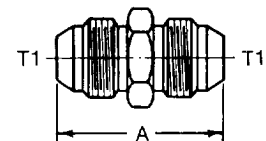
Male Adapter



Part No. 0103 - (Dash size)
Male SAE (JIC) 37° Flare - Male Pipe

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A
2-2	1/8-27	5/16-24	1/8	1.11
2-3	1/8-27	3/8-24	3/16	1.14
2-4	1/8-27	7/16-20	1/4	1.22
4-4	1/4-18	7/16-20	1/4	1.42
8-4	1/2-14	7/16-20	1/4	1.69
2-5	1/8-27	1/2-20	5/16	1.22
4-5	1/4-18	1/2-20	5/16	1.42
4-6	1/4-18	9/16-18	3/8	1.43
2-6	1/8-27	9/16-18	3/8	1.25
6-6	3/8-18	9/16-18	3/8	1.44
8-6	1/2-14	9/16-18	3/8	1.69
6-8	3/8-18	3/4-16	1/2	1.53
4-8	1/4-18	3/4-16	1/2	1.53
8-8	1/2-14	3/4-16	1/2	1.78
12-8	3/4-14	3/4-16	1/2	1.86
8-10	1/2-14	7/8-14	5/8	1.89
6-10	3/8-18	7/8-14	5/8	1.69
12-10	3/4-14	7/8-14	5/8	1.95
12-12	3/4-14	1 1/16-12	3/4	2.06
8-12	1/2-14	1 1/8-12	3/4	2.06
16-12	1 -11 1/2	1 1/16-12	3/4	2.25
12-14	3/4-14	1 3/16-12	7/8	2.09
16-16	1 -11 1/2	1 5/16-12	1	2.30
12-16	3/4-14	1 5/16-12	1	2.11
20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	2.45
16-20	1 -11 1/2	1 5/8-12	1 1/4	2.42
24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	2.68
20-24	1 1/4-11 1/2	1 7/8-12	1 1/2	2.66
32-32	2 -11 1/2	2 1/2-12	2	3.11

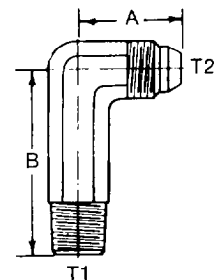
Union



Part No. 0303 - (Dash size)
Male SAE (JIC) 37° Flare - Both Ends

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	W Hex
2-2	5/16-24	1/8	1.17	7/16
3-3	3/8-24	3/16	1.23	7/16
4-4	7/16-20	1/4	1.37	1/2
5-5	1/2-20	5/16	1.37	9/16
6-6	9/16-18	3/8	1.41	5/8
8-8	3/4-16	1/2	1.62	1 3/16
10-10	7/8-14	5/8	1.88	1 5/16
12-12	1 1/16-12	3/4	2.16	1 1/8
14-14	1 3/16-12	7/8	2.21	1 1/4
16-16	1 5/16-12	1	2.25	1 3/8
20-20	1 5/8-12	1 1/4	2.43	1 11/16
24-24	1 7/8-12	1 1/2	2.75	2
32-32	2 1/2-12	2	3.40	2 5/8

Extra Long Male 90° Elbow

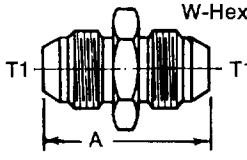
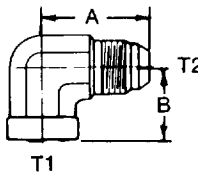
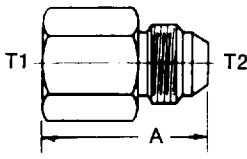


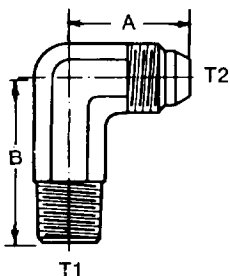
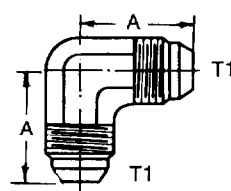
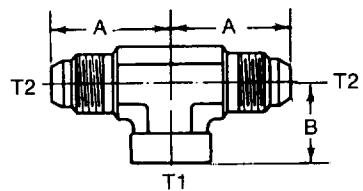
Part No. 5703 - (Dash size)
Male SAE (JIC) 37° Flare - Male Pipe

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	B
2-2	1/8-27	5/16-24	1/8	.77	1.28
2-3	1/8-27	3/8-24	3/16	.83	1.34
2-4	1/8-27	7/16-20	1/4	.89	1.59
2-5	1/8-27	1/2-20	5/16	.95	1.66
4-6	1/4-18	9/16-18	3/8	1.06	2.03
4-4	1/4-18	7/16-20	1/4	1.05	2.03
6-8	3/8-18	3/4-16	1/2	1.25	2.34
8-10	1/2-14	7/8-14	5/8	1.45	2.84
12-12	3/4-14	1 1/16-12	3/4	1.66	3.22
12-14	3/4-14	1 3/16-12	7/8	1.73	3.50
16-16	1 -11 1/2	1 5/16-12	1	1.81	3.97
20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	2.06	4.94
24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	2.33	5.50
32-32	2 -11 1/2	2 1/2-12	2	3.06	6.63

Hose Adapters

SAE (JIC) 37° Flare

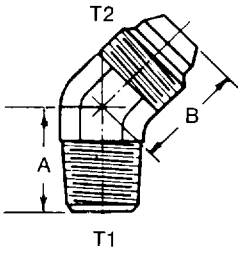
Large Hex Union					Female 90° Elbow						Female Adapter				
 <p>Part No. 03L3 - (Dash size) Male SAE (JIC) 37° Flare - Both Ends</p>					 <p>Part No. 2203 - (Dash size) Male SAE (JIC) 37° Flare - Female Pipe</p>						 <p>Part No. 0203 - (Dash size) Male SAE (JIC) 37° Flare - Female Pipe</p>				
Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	W Hex	Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	B	Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A
2-2	5/16-24	1/8	1.17	9/16	2-2	1/8-27	5/16-24	1/8	1.00	.66	2-2	1/8-27	5/16-24	1/8	1.12
3-3	3/8-24	3/16	1.23	5/8	2-3	1/8-27	3/8-24	3/16	1.03	.66	2-3	1/8-27	3/8-24	3/16	1.13
4-4	7/16-20	1/4	1.37	1 1/16	2-4	1/8-27	7/16-20	1/4	1.03	.66	2-4	1/8-27	7/16-20	1/4	1.19
5-5	1/2-20	5/16	1.37	3/4	4-4	1/4-18	1/2-20	1/4	1.13	.88	4-4	1/4-18	1/2-20	1/4	1.38
6-6	9/16-18	3/8	1.41	13/16	2-5	1/8-27	1/2-20	5/16	1.03	.66	2-5	1/8-27	1/2-20	5/16	1.17
8-8	3/4-16	1/2	1.62	1	4-5	1/4-18	1/2-20	5/16	1.13	.88	4-5	1/4-18	1/2-20	5/16	1.34
10-10	7/8-14	5/8	1.88	1 1/8	4-6	1/4-18	9/16-18	3/8	1.23	.88	4-6	1/4-18	9/16-18	3/8	1.40
12-12	1 1/16-12	3/4	2.16	1 3/8	2-6	3/8-27	9/16-18	3/8	1.06	.66	6-6	3/8-18	9/16-18	3/8	1.41
14-14	1 3/16-12	7/8	2.21	1 1/2	6-6	3/8-18	9/16-18	3/8	1.23	1.02	6-8	3/8-18	3/4-16	1/2	1.56
16-16	1 7/16-12	1	2.25	1 5/8	6-8	3/8-18	3/4-16	1/2	1.42	1.02	8-8	1/2-14	3/4-16	1/2	1.75
20-20	1 5/8-12	1 1/4	2.43	1 7/8	4-8	1/4-18	3/4-16	1/2	1.25	.88	8-10	1/2-14	7/8-14	5/8	1.89
24-24	1 7/8-12	1 1/2	2.75	1 9/8	8-8	1/2-14	3/4-16	1/2	1.42	1.23	12-12	3/4-14	1 1/16-12	3/4	2.06
32-32	2 1/2-12	2	3.40	2 3/4	8-10	1/2-14	7/8-14	5/8	1.64	1.23	8-12	1/2-14	1 1/16-12	3/4	1.91
					12-12	3/4-14	1 1/16-12	3/4	1.89	1.36	12-14	3/4-14	1 3/16-12	7/8	2.06
					8-12	1/2-14	1 1/16-12	3/4	1.65	1.23	16-16	1 -11 1/2	1 5/16-12	1	2.35
					12-14	3/4-14	1 3/16-12	7/8	1.85	1.42	20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	2.49
					16-16	1 -11 1/2	1 5/16-12	1	2.17	1.62	24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	2.62
					20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	2.33	1.70	32-32	2 -11 1/2	2 1/2-12	2	2.97
					24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	2.89	2.08					
					32-32	2 -11 1/2	2 1/2-12	2 1/2	3.30	2.39					

Long Male 90° Elbow						Union Elbow				Female Branch Tee					
 <p>Part No. 5603 - (Dash size) Male SAE (JIC) 37° Flare - Male Pipe</p>						 <p>Part No. 2303 - (Dash size) Male SAE (JIC) 37° Flare - Both Ends</p>				 <p>Part No 223T - (Dash size) Male SAE (JIC) 37° Flare 2 Ends - Female Pipe Branch</p>					
Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	B	Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	B
2-2	1/8-27	5/16-24	1/8	.77	1.00	2-2	5/16-24	1/8	.77	2-2	1/8-27	5/16-24	1/8	1.00	.66
2-3	1/8-27	3/8-24	3/16	.83	1.03	2-3	3/8-24	3/16	.83	2-3	1/8-27	3/8-24	3/16	1.03	.66
2-4	1/8-27	7/16-20	1/4	.89	1.19	2-4	7/16-20	1/4	.89	2-4	1/8-27	7/16-20	1/4	1.08	.66
2-5	1/8-27	1/2-20	5/16	.95	1.22	5-5	1/2-20	5/16	.95	2-5	1/8-27	1/2-20	5/16	1.08	.66
4-6	1/4-18	9/16-18	3/8	1.06	1.56	6-6	9/16-18	3/8	1.06	4-6	1/4-18	9/16-18	3/8	1.23	.88
4-4	1/4-18	7/16-20	1/4	1.05	1.56	8-8	3/4-16	1/2	1.25	6-8	3/8-18	3/4-16	1/2	1.42	1.02
6-8	3/8-18	3/4-16	1/2	1.25	1.78	10-10	7/8-14	5/8	1.45	8-10	1/2-14	7/8-14	5/8	1.64	1.23
8-10	1/2-14	7/8-14	5/8	1.45	2.16	12-12	1 1/16-12	3/4	1.66	12-12	3/4-14	1 1/16-12	3/4	1.89	1.36
12-12	3/4-14	1 1/16-12	3/4	1.66	2.41	14-14	1 3/16-12	7/8	1.73	12-14	3/4-14	1 3/16-12	7/8	1.86	1.42
12-14	3/4-14	1 3/16-12	7/8	1.73	2.59	16-16	1 5/16-12	1	1.81	16-16	1 -11 1/2	1 5/16-12	1	2.17	1.62
16-16	1 -11 1/2	1 5/16-12	1	1.81	2.97	20-20	1 5/8-12	1 1/4	2.06	20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	2.33	1.70
20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	2.06	3.66	24-24	1 7/8-12	1 1/2	2.33	24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	2.89	2.08
24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	2.33	4.06	32-32	2 1/2-12	2	3.06	32-32	2 -11 1/2	2 1/2-12	2	3.30	2.39
32-32	2 -11 1/2	2 1/2-12	2	3.06	4.81										

SAE (JIC) 37° Flare

Hose Adapters

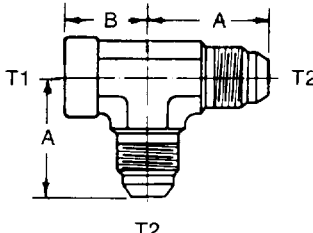
Male 45° Elbow



Part No. 3103 - (Dash size)
Male SAE (JIC) 37° Flare - Male Pipe

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	B
2-2	1/8-27	5/16-24	1/8	.52	.66
2-3	1/8-27	3/8-24	3/16	.52	.66
2-4	1/8-27	7/16-20	1/4	.64	.72
4-4	1/4-18	7/16-20	1/4	.86	.83
2-5	1/8-27	1/2-20	5/16	.64	.77
4-5	1/4-18	1/2-20	5/16	.86	.83
4-6	1/4-18	9/16-18	3/8	.86	.83
2-6	1/8-27	9/16-18	3/8	.69	.83
6-6	3/8-18	9/16-18	3/8	.95	.94
8-6	1/2-14	9/16-18	3/8	1.17	1.06
6-8	3/8-18	3/4-16	1/2	.95	.98
4-8	1/4-18	3/4-16	1/2	.94	.98
8-8	1/2-14	3/4-16	1/2	1.17	1.13
12-8	3/4-14	3/4-16	1/2	1.20	1.19
8-10	1/2-14	7/8-14	5/8	1.17	1.11
6-10	3/8-18	7/8-14	5/8	1.16	1.11
12-12	3/4-14	1 1/16-12	3/4	1.20	1.28
8-12	1/2-14	1 1/16-12	3/4	1.19	1.28
12-14	3/4-14	1 3/16-12	7/8	1.27	1.39
16-16	1 -11 1/2	1 5/16-12	1	1.48	1.47
12-16	3/4-14	1 5/16-12	1	1.25	1.47
20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	1.67	1.59
24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	1.77	1.78
32-32	2 -11 1/2	2 1/2-12	2	2.11	2.22

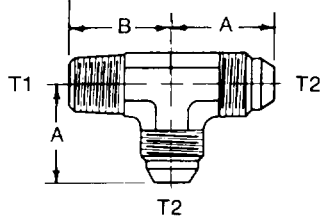
Female Run Tee



Part No. 023T - (Dash size)
Male SAE (JIC) 37° Flare 2 Ends - Female Pipe Run

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	B
2-2	1/8-27	5/16-24	1/8	1.00	.66
2-3	1/8-27	3/8-24	3/16	1.03	.66
2-4	1/8-27	7/16-20	1/4	1.08	.66
2-5	1/8-27	1/2-20	5/16	1.08	.66
4-6	1/4-18	9/16-18	3/8	1.23	.88
6-8	3/8-18	3/4-16	1/2	1.42	1.02
8-10	1/2-14	7/8-14	5/8	1.64	1.23
12-12	3/4-14	1 1/16-12	3/4	1.89	1.36
12-14	3/4-14	1 3/16-12	7/8	1.86	1.42
16-16	1 -11 1/2	1 5/16-12	1	2.17	1.62
20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	2.33	1.70
24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	2.89	2.08
32-32	2 -11 1/2	2 1/2-12	2	3.30	2.39

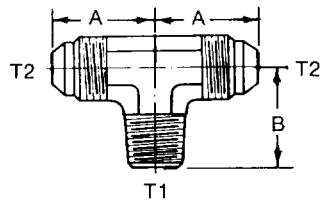
Male Run Tee



Part No. 013T - (Dash size)
Male SAE (JIC) 37° Flare 2 Ends Male Pipe Run

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	B
2-2	1/8-27	5/16-24	1/8	.77	.72
2-3	1/8-27	3/8-24	3/16	.83	.72
2-4	1/8-27	7/16-20	1/4	.89	.78
2-5	1/8-27	1/2-20	5/16	.95	.78
4-6	1/4-18	9/16-18	3/8	1.06	1.09
6-8	3/8-18	3/4-16	1/2	1.25	1.22
8-10	1/2-14	7/8-14	5/8	1.45	1.47
12-12	3/4-14	1 1/16-12	3/4	1.66	1.59
12-14	3/4-14	1 3/16-12	7/8	1.73	1.69
16-16	1 -11 1/2	1 5/16-12	1	1.81	1.97
20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	2.06	2.38
24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	2.33	2.64
32-32	2 -11 1/2	2 1/2-12	2	3.06	3.00

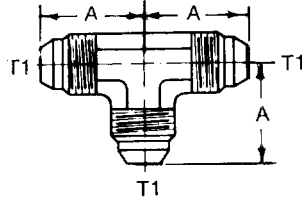
Male Branch Tee



Part No. 213T - (Dash size)
Male SAE (JIC) 37° Flare 2 Ends - Male Pipe Branch

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	B
2-2	1/8-27	5/16-24	1/8	.77	.72
2-3	1/8-27	3/8-24	3/16	.83	.72
2-4	1/8-27	7/16-20	1/4	.89	.78
2-5	1/8-27	1/2-20	5/16	.95	.78
4-6	1/4-18	9/16-18	3/8	1.06	1.09
6-8	3/8-18	3/4-16	1/2	1.25	1.22
8-10	1/2-14	7/8-14	5/8	1.45	1.47
12-12	3/4-14	1 1/16-12	3/4	1.66	1.59
12-14	3/4-14	1 3/16-12	7/8	1.73	1.69
16-16	1 -11 1/2	1 5/16-12	1	1.81	1.97
20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	2.06	2.38
24-24	1 1/2-11 1/2	1 7/8-12	1 1/2	2.33	2.64
32-32	2 -11 1/2	2 1/2-12	2	3.06	3.00

Union Tee

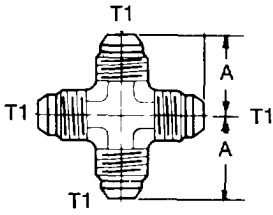
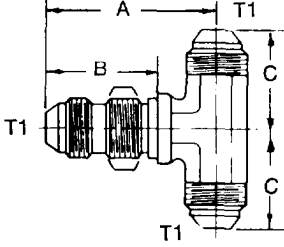
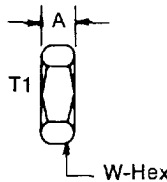


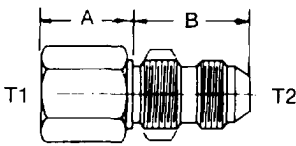
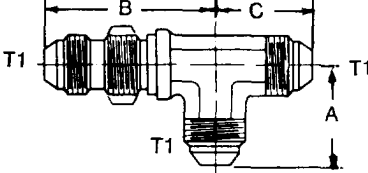
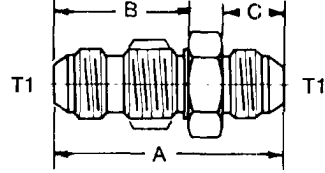
Part No. 0033T - (Dash size)
Male SAE (JIC) 37° Flare - All Ends

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A
2-2	5/16-24	1/8	.77
3-3	3/8-24	3/16	.83
4-4	7/16-20	1/4	.89
5-5	1/2-20	5/16	.95
6-6	9/16-18	3/8	1.06
8-8	3/4-16	1/2	1.25
10-10	7/8-14	5/8	1.45
12-12	1 1/16-12	3/4	1.66
14-14	1 3/16-12	7/8	1.73
16-16	1 5/16-12	1	1.81
20-20	1 5/8-12	1 1/4	2.06
24-24	1 7/8-12	1 1/2	2.33
32-32	2 1/2-12	2	3.06

Hose Adapters

SAE (JIC) 37° Flare

Union Cross				Bulkhead Branch Tee includes locknut						Bulkhead Locknut				
														
<p>Part No. 033X - (Dash size) Male SAE (JIC) 37° Flare - All Ends</p>				<p>Part No. 543T - (Dash size) * Male SAE (JIC) 37° Flare - All Ends</p>						<p>Part No. 53N - (Dash size) Used On All Bulkhead Adapters</p>				
Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B	C	Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	W Hex
-2	5/16-24	1/8	.77	2-2	5/16-24	1/8	1.41	1.02	.83	-2	5/16-24	1/8	.22	9/16
-3	3/8-24	3/16	.83	3-3	3/8-24	3/16	1.44	1.02	.89	-3	3/8-24	3/16	.22	5/8
-4	7/16-20	1/4	.89	4-4	7/16-20	1/4	1.58	1.11	.95	-4	7/16-20	1/4	.25	11/16
-5	1/2-20	5/16	.95	5-5	1/2-20	5/16	1.61	1.11	1.02	-5	1/2-20	5/16	.25	3/4
-6	9/16-18	3/8	1.06	6-6	9/16-18	3/8	1.80	1.19	1.08	-6	9/16-18	3/8	.27	12/16
-8	3/4-16	1/2	1.25	8-8	3/4-16	1/2	2.09	1.38	1.34	-8	3/4-16	1/2	.31	1
-10	7/8-14	5/8	1.45	10-10	7/8-14	5/8	2.38	1.52	1.55	-10	7/8-14	5/8	.36	2 1/8
-12	1 1/16-12	3/4	1.66	12-12	1 1/16-12	3/4	2.66	1.69	1.77	-12	1 1/16-12	3/4	.41	1 3/8
-14	1 3/16-12	7/8	1.73	16-16	1 3/16-12	1	2.78	1.69	1.92	-14	1 3/16-12	7/8	.41	1 1/2
-16	1 5/16-12	1	1.81	20-20	1 5/8-12	1 1/4	3.11	1.73	2.16	-16	1 5/16-12	1	.41	1 5/8
-20	1 5/8-12	1 1/4	2.06	24-24	1 7/8-12	1 1/2	3.41	1.75	2.33	-20	1 5/8-12	1 1/4	.41	1 7/8
-24	1 7/8-12	1 1/2	2.33	32-32	2 1/2-12	2	4.09	2.03	2.88	-24	1 7/8-12	1 1/2	.41	2 1/8
-32	2 1/2-12	2	3.06							-32	2 1/2-12	2	.41	2 3/4

Female Bulkhead Adapter includes locknut						Bulkhead Run Tee includes locknut						Bulkhead Union includes locknut					
																	
<p>Part No. 0253 - (Dash size) * Male SAE (JIC) 37° Flare - Female Pipe</p>						<p>Part No. 533T - (Dash size) * Male SAE (JIC) 37° Flare - All Ends</p>						<p>Part No. 0353 - (Dash size) * Male SAE (JIC) 37° Flare - Both Ends</p>					
Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	B	Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B	C	Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B	C
2-4	1/8-27	7/16-20	1/4	.61	1.23	2-2	5/16-24	1/8	.83	1.41	.77	2-2	5/16-24	1/8	1.87	1.14	.45
2-5	1/8-27	1/2-20	5/16	.61	1.23	3-3	3/8-24	3/16	.89	1.44	.83	3-3	3/8-24	3/16	1.90	1.14	.48
4-6	1/4-18	3/8-18	3/8	.75	1.31	4-4	7/16-20	1/4	.95	1.58	.89	4-4	7/16-20	1/4	2.07	1.23	.55
6-8	3/8-18	3/4-16	1/2	.88	1.47	5-5	1/2-20	5/16	1.02	1.61	.95	5-5	1/2-20	5/16	2.07	1.23	.55
8-10	1/2-14	7/8-14	5/8	1.04	1.61	6-6	9/16-18	3/8	1.08	1.80	1.06	6-6	9/16-18	3/8	2.18	1.31	.56
12-12	3/4-14	1 1/16-12	3/4	1.13	1.78	8-8	3/4-16	1/2	1.34	2.09	1.25	8-8	3/4-16	1/2	2.44	1.47	.66
12-14	3/4-14	1 3/16-12	7/8	1.11	1.78	10-10	7/8-14	5/8	1.55	2.38	1.45	10-10	7/8-14	5/8	2.74	1.61	.76
16-16	1 -11 1/2	1 5/16-12	1	1.31	1.78	12-12	1 1/16-12	3/4	1.77	2.66	1.66	12-12	1 1/16-12	3/4	3.09	1.78	.86
20-20	1 1/4-11 1/2	1 5/8-12	1 1/4	1.39	1.83	16-16	1 3/16-12	1	1.92	2.78	1.81	14-14	1 3/16-12	7/8	3.12	1.78	.89
						20-20	1 5/8-12	1 1/4	2.16	3.11	2.06	16-16	1 5/16-12	1	3.14	1.78	.91
						24-24	1 7/8-12	1 1/2	2.33	3.41	2.33	20-20	1 5/8-12	1 1/4	3.31	1.83	.96
						32-32	2 1/2-12	2	2.88	4.09	3.06	24-24	1 7/8-12	1 1/2	3.52	1.84	1.08
												32-32	2 1/2-12	2	4.20	2.12	1.33

SAE (JIC) 37° Flare

Hose Adapters

Bulkhead 90° Union Elbow
includes locknut

Part No. 2353 - (Dash size)*
Male SAE (JIC) 37° Flare - Both Ends

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B	C
2-2	5/16-24	1/8	1.02	.40	.84
3-3	3/8-24	3/16	1.02	.43	.91
4-4	7/16-20	1/4	1.11	.48	.97
5-5	1/2-20	5/16	1.11	.51	1.03
6-6	9/16-18	3/8	1.19	.62	1.09
8-8	3/4-16	1/2	1.38	.73	1.36
10-10	7/8-14	5/8	1.52	.87	1.56
12-12	1 1/16-12	3/4	1.69	.98	1.78
14-14	1 3/16-12	7/8	1.69	1.04	1.86
16-16	1 5/16-12	1	1.69	1.11	1.94
20-20	1 5/8-12	1 1/4	1.73	1.39	2.17
24-24	1 7/8-12	1 1/2	1.75	1.67	2.34
32-32	2 1/2-12	2	2.03	2.08	2.89

Cap

Part No. 06CP - (Dash size)
Female SAE (JIC) 37° Seat

Dash Size (Steel)	Straight Thread	Tube Size	A	B	W Hex
-2	5/16-24	1/8	.38	.54	3/8
-3	3/8-24	3/16	.38	.60	7/16
-4	7/16-20	1/4	.34	.61	9/16
-5	1/2-20	5/16	.41	.67	5/8
-6	9/16-18	3/8	.47	.72	1 1/16
-8	3/4-16	1/2	.53	.84	7/8
-10	7/8-14	5/8	.53	.97	1
-12	1 1/16-12	3/4	.66	1.02	1 1/4
-14	1 3/16-12	7/8	.53	1.08	1 3/8
-16	1 5/16-12	1	.63	1.12	1 1/2
-20	1 5/8-12	1 1/4	.75	1.22	2
-24	1 7/8-12	1 1/2	.94	1.41	2 1/4
-32	2 1/2-12	2	1.13	1.74	2 7/8

Reducer

Part No. 0603 - (Dash size)
Female SAE (JIC) 37° Seat
Male SAE (JIC) 37° Flare
**These sizes are of a special one piece construction that do not require use of an O6B nut.

Dash Size (Steel)	T ₁ Tube Size	T ₂ Straight Thread	T ₂ Tube Size	A
6-4	3/8	7/16-20	1/4	.89
8-4	1/2	7/16-20	1/4	.89
8-6	1/2	9/16-18	3/8	.89
10-4	5/8	7/16-20	1/4	.92
10-6	5/8	9/16-18	3/8	.92
10-8**	5/8	3/4-16	1/2	.66
12-4	3/4	7/16-20	1/4	.95
12-6	3/4	9/16-18	3/8	.95
12-8	3/4	3/4-16	1/2	1.05
12-10**	3/4	7/8-14	5/8	.76
14-6	7/8	9/16-18	3/8	1.02
14-10	7/8	7/8-14	3/8	1.22
14-12**	7/8	1 1/16-12	3/4	1.16
16-12	1	1 1/16-12	3/4	1.33
16-14**	1	1 3/16-12	7/8	1.19
20-12	1 1/4	1 1/16-12	3/4	1.34
20-16	1 1/4	1 3/16-12	1	1.41
24-20	1 1/2	1 5/8-12	1 1/4	1.53

Bulkhead 45° Union Elbow
includes locknut

Part No. 3353 - (Dash size)*
Male SAE (JIC) 37° Flare - Both Ends

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B	C
2-2	5/16-24	1/8	1.02	.36	.64
3-3	3/8-24	3/16	1.02	.36	.64
4-4	7/16-20	1/4	1.11	.42	.70
5-5	1/2-20	5/16	1.11	.42	.75
6-6	9/16-18	3/8	1.19	.48	.81
8-8	3/4-16	1/2	1.38	.56	.97
10-10	7/8-14	5/8	1.52	.66	1.09
12-12	1 1/16-12	3/4	1.69	.75	1.27
14-14	1 3/16-12	7/8	1.69	.81	1.36
16-16	1 5/16-12	1	1.69	.88	1.45
20-20	1 5/8-12	1 1/4	1.73	.92	1.58
24-24	1 7/8-12	1 1/2	1.75	.92	1.77
32-32	2 1/2-12	2	2.03	.88	2.20

Plug

Part No. 03CP - (Dash size)
Male SAE (JIC) 37° Flare

Dash Size (Steel)	Straight Thread	Tube Size	A	W Hex
-2	5/16-24	1/8	.70	7/16
-3	3/8-24	3/16	.73	7/16
-4	7/16-20	1/4	.80	1/2
-5	1/2-20	5/16	.80	9/16
-6	9/16-18	3/8	.84	5/8
-8	3/4-16	1/2	.94	13/16
-10	7/8-14	5/8	1.10	1 5/16
-12	1 1/16-12	3/4	1.28	1 1/8
-14	1 3/16-12	7/8	1.31	1 1/4
-16	1 5/16-12	1	1.33	1 3/8
-20	1 5/8-12	1 1/4	1.45	1 11/16
-24	1 7/8-12	1 1/2	1.65	2
-32	2 1/2-12	2	2.05	2 5/8

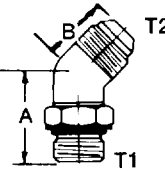
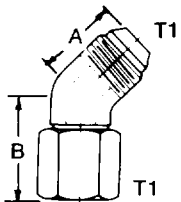
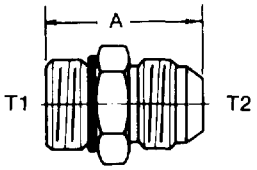
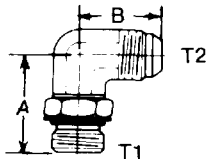
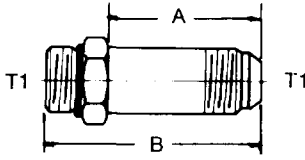
Swivel Nut 90° Elbow

Part No. 3903 - (Dash size)
Male SAE (JIC) 37° Flare -
Female SAE (JIC) 37° Swivel

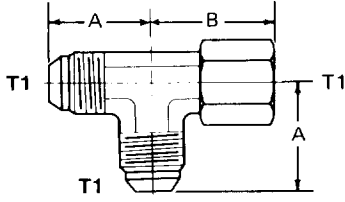
Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B
2-2	5/16-24	1/8	.77	.97
3-3	3/8-24	3/16	.83	1.00
4-4	7/16-20	1/4	.89	1.00
5-5	1/2-20	5/16	.95	1.06
6-6	9/16-18	3/8	1.06	1.25
8-8	3/4-16	1/2	1.25	1.38
10-10	7/8-14	5/8	1.45	1.62
12-12	1 1/16-12	3/4	1.66	1.75
14-14	1 3/16-12	7/8	1.73	1.78
16-16	1 5/16-12	1	1.81	2.00
20-20	1 5/8-12	1 1/4	2.06	2.31
24-24	1 7/8-12	1 1/2	2.33	2.59
32-32	2 1/2-12	2	3.06	3.38

Hose Adapters

SAE (JIC) 37° Flare

Straight Thread 45° Elbow						Swivel Nut 45° Elbow					Straight Thread Adapter								
																			
<p>Part No. 3503 - (Dash size) Male SAE (JIC) 37° Flare - SAE Straight Thread With O Ring</p>						<p>Part No. 3703 - (Dash size) Male SAE (JIC) 37° Flare - Female SAE (JIC) 37° Swivel</p>					<p>Part No. 0503 - (Dash size) Male SAE (JIC) 37° Flare - SAE Straight Thread With O Ring</p>								
Dash Size (Steel)	T ₁ Straight Thread	T ₂ Straight Thread	Tube Size	A	B	Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B	Dash Size (Steel)	T ₁ Straight Thread	T ₂ Straight Thread	Tube Size	A				
4-4	7/16-20	7/16-20	1/4	1.05	.72	2-2	5/16-24	1/8	.66	.94	2-2	5/16-24	5/16-24	1/8	1.06				
5-5	1/2-20	1/2-20	5/16	1.05	.77	3-3	3/8-24	3/16	.66	.94	3-3	3/8-24	3/8-24	3/16	1.10				
6-6	9/16-18	9/16-18	3/8	1.14	.83	4-4	7/16-24	1/4	.72	.94	4-4	7/16-20	7/16-20	1/4	1.23				
8-8	3/4-16	3/4-16	1/2	1.30	.98	5-5	1/2-20	5/16	.77	1.00	5-4	1/2-20	7/16-20	1/4	1.23				
10-8	7/8-14	3/4-16	1/2	1.52	1.00	6-6	9/16-18	3/8	.83	1.12	6-4	9/16-18	7/16-20	3/8	1.30				
10-10	7/8-14	7/8-14	5/8	1.52	1.11	8-8	3/4-16	1/2	.98	1.28	8-4	3/4-16	7/16-20	1/4	1.38				
10-12	7/8-14	1 1/16-12	3/4	1.58	1.28	10-10	7/8-14	5/8	1.11	1.44	5-5	1/2-20	1/2-20	5/16	1.23				
12-12	1 1/16-12	1 1/16-12	3/4	1.73	1.28	12-12	1 1/16-12	3/4	1.28	1.50	6-6	9/16-18	9/16-18	3/8	1.30				
14-14	1 3/16-12	1 3/16-12	7/8	1.80	1.39	14-14	1 3/16-12	7/8	1.39	1.62	8-6	3/4-16	9/16-18	3/8	1.38				
16-16	1 5/16-12	1 5/16-12	1	1.86	1.47	16-16	1 5/16-12	1	1.47	1.75	10-6	7/8-14	9/16-18	3/8	1.50				
20-20	1 5/8-12	1 5/8-12	1 1/4	1.91	1.59	20-20	1 5/8-12	1 1/4	1.59	2.03	6-8	9/16-18	3/4-16	1/2	1.43				
24-24	1 7/8-12	1 7/8-12	1 1/2	1.91	1.78	24-24	1 7/8-12	1 1/2	1.78	2.25	8-8	3/4-16	3/4-16	1/2	1.48				
32-32	2 1/2-12	2 1/2-12	2	1.86	2.22	32-32	2 1/2-12	2	2.22	2.91	10-8	7/8-14	3/4-16	1/2	1.60				
<p>Straight Thread 90° Elbow</p> 						<p>Long Straight Thread Adapter</p> 					<p>8-12</p>					3/4-16	1 1/16-12	3/4	1.78
<p>Part No. 2503 - (Dash size) Male JIC 37° Flare - SAE Straight Thread With O Ring</p>						<p>Part No. 5E03 - (Dash size) Male SAE (JIC) 37° Flare - SAE Straight Thread With O Ring</p>					<p>10-12</p>					1 1/16-12	1 1/16-12	3/4	1.81
Dash Size (Steel)	T ₁ Straight Thread	T ₂ Straight Thread	Tube Size	A	B	Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B	Dash Size (Steel)	T ₁ Straight Thread	T ₂ Straight Thread	Tube Size	A				
2-2	5/16-24	5/16-24	1/8	.91	.77	2-2	5/16-24	1/8	1.17	1.79	12-12	1 1/16-12	1 1/16-12	3/4	1.97				
3-3	3/8-24	3/8-24	3/16	.94	.83	3-3	3/8-24	3/16	1.25	1.87	16-12	1 5/16-12	1 5/16-12	3/4	2.00				
4-4	7/16-20	7/16-20	1/4	1.03	.89	4-4	7/16-20	1/4	1.39	2.08	14-14	1 9/16-12	1 9/16-12	7/8	1.99				
6-4	9/16-18	7/16-20	1/4	1.25	1.05	4-4	7/16-20	1/4	1.39	2.08	16-14	1 5/16-12	1 5/16-12	7/8	2.02				
5-5	1/2-20	1/2-20	5/16	1.09	.95	5-5	1/2-20	5/16	1.45	2.14	10-16	7/8-14	1 5/16-12	1	2.08				
6-6	9/16-18	9/16-18	3/8	1.25	1.06	6-6	9/16-18	3/8	1.56	2.31	12-16	1 1/16-12	1 5/16-12	1	2.01				
8-6	3/4-16	9/16-18	3/8	1.43	1.15	8-8	3/4-16	1/2	1.88	2.70	14-16	1 9/16-12	1 5/16	1	2.08				
6-8	9/16-18	3/4-16	1/2	1.25	1.45	10-10	7/8-14	5/8	2.09	3.04	16-16	1 5/16-12	1 5/16-12	1	2.04				
8-8	3/4-16	3/4-16	1/2	1.45	1.25	12-12	1 1/16-12	3/4	2.50	3.61	20-16	1 5/8-12	1 5/16-12	1	2.12				
8-8	3/4-16	3/4-16	1/2	1.45	1.25	14-14	1 3/16-12	7/8	2.69	3.80	16-20	1 5/16-12	1 5/8-12	1 1/4	2.17				
10-8	7/8-14	3/4-16	1/2	1.70	1.34	16-16	1 5/16-12	1	2.84	3.98	20-20	1 5/8-12	1 5/8-12	1 1/4	2.17				
8-10	3/4-16	7/8-14	5/8	1.55	1.45	20-20	1 5/8-12	1 1/4	3.47	4.69	24-24	1 7/8-12	1 7/8-12	1 1/2	2.37				
10-10	7/8-14	7/8-14	5/8	1.70	1.45	24-24	1 7/8-12	1 1/2	3.88	5.17	32-32	2 1/2-12	2 1/2-12	2	2.78				
12-10	1 1/16-12	7/8-14	5/8	1.94	1.53	32-32	2 1/2-12	2	4.84	6.29									
10-12	7/8-14	1 1/16-12	3/4	1.78	1.66														
12-12	1 1/16-12	1 1/16-12	3/4	1.94	1.66														
16-12	1 3/16-12	1 1/16-12	3/4	2.05	1.81														
14-14	1 3/16-12	1 3/16-12	7/8	2.00	1.73														
12-16	1 1/16-12	1 3/16-12	1	2.05	1.81														
16-16	1 5/16-12	1 5/16-12	1	2.05	1.81														
20-20	1 5/8-12	1 5/8-12	1 1/4	2.25	2.06														
24-24	1 7/8-12	1 7/8-12	1 1/2	2.39	2.33														
32-32	2 1/2-12	2 1/2-12	2	2.89	3.06														

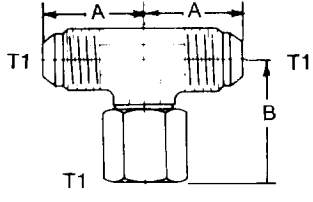
Swivel Nut Run Tee



Part No. 063T - (Dash size)
Male SAE (JIC) 37° Flare 2 Ends -
Female SAE (JIC) 37° Swivel Run

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B
2-2	5/16-24	1/8	.77	.97
3-3	3/8-24	3/16	.83	1.00
4-4	7/16-20	1/4	.89	1.00
5-5	1/2-20	5/16	.95	1.06
6-6	9/16-18	3/8	1.06	1.25
8-8	3/4-16	1/2	1.25	1.38
10-10	7/8-14	5/8	1.45	1.62
12-12	1 1/16-12	3/4	1.66	1.75
14-14	1 3/16-12	7/8	1.73	1.78
16-16	1 5/16-12	1	1.81	2.00
20-20	1 5/8-12	1 1/4	2.06	2.31
24-24	1 7/8-12	1 1/2	2.33	2.59
32-32	2 1/2-12	2	3.06	3.38

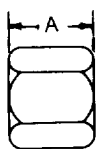
Swivel Nut Branch Tee



Part No. 393T - (Dash size)
Male SAE (JIC) 37° Flare 2 Ends -
Female SAE (JIC) 37° Swivel Branch

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B
2-2	5/16-24	1/8	.77	.97
3-3	3/8-24	3/16	.83	1.00
4-4	7/16-20	1/4	.89	1.00
5-5	1/2-20	5/16	.95	1.06
6-6	9/16-18	3/8	1.06	1.25
8-8	3/4-16	1/2	1.25	1.38
10-10	7/8-14	5/8	1.45	1.62
12-12	1 1/16-12	3/4	1.66	1.75
14-14	1 3/16-12	7/8	1.73	1.78
16-16	1 5/16-12	1	1.81	2.00
20-20	1 5/8-12	1 1/4	2.06	2.31
24-24	1 7/8-12	1 1/2	2.33	2.59
32-32	2 1/2-12	2	3.06	3.38

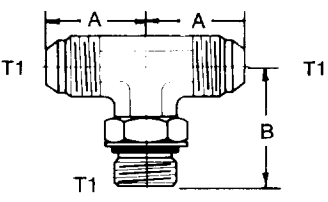
Nut



Part No. 06B - (Dash size)
Use With 06S Sleeve To Connect
Any SAE (JIC) 37° Flare Adapter To Tubing

Dash Size (Steel)	Straight Thread	Tube Size (O.D.)	A	W Hex
-2	5/16-24	1/8	.54	3/8
-3	3/8-24	3/16	.60	7/16
-4	7/16-20	1/4	.61	9/16
-5	1/2-20	5/16	.67	5/8
-6	9/16-18	3/8	.72	1 1/16
-8	3/4-16	1/2	.84	7/8
-10	7/8-14	5/8	.97	1
-12	1 1/16-12	3/4	1.02	1 1/4
-14	1 3/16-12	7/8	1.08	1 3/8
-16	1 5/16-12	1	1.12	1 1/2
-20	1 5/8-12	1 1/4	1.22	2
-24	1 7/8-12	1 1/2	1.41	2 1/4
-32	2 1/2-12	2	1.74	2 7/8

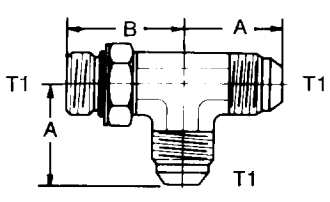
Straight Thread Branch Tee



Part No. 253T - (Dash size)
Male SAE (JIC) 37° Flare 2 Ends -
SAE Straight Thread With O Ring Branch

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B
2-2	5/16-24	1/8	.77	.91
3-3	3/8-24	3/16	.83	.94
4-4	7/16-20	1/4	.89	1.03
5-5	1/2-20	5/16	.95	1.09
6-6	9/16-18	3/8	1.06	1.25
8-8	3/4-16	1/2	1.25	1.45
10-10	7/8-14	5/8	1.45	1.70
12-12	1 1/16-12	3/4	1.66	1.94
14-14	1 3/16-12	7/8	1.73	2.00
16-16	1 5/16-12	1	1.81	2.05
20-20	1 5/8-12	1 1/4	2.06	2.25
24-24	1 7/8-12	1 1/2	2.33	2.39
32-32	2 1/2-12	2	3.06	2.89

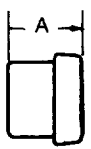
Straight Thread Run Tee



Part No. 053T - (Dash size)
Male SAE (JIC) 37° Flare 2 Ends -
SAE Straight Thread with O Ring Run

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B
2-2	5/16-24	1/8	.77	.91
3-3	3/8-24	3/16	.83	.94
4-4	7/16-20	1/4	.89	1.03
5-5	1/2-20	5/16	.95	1.09
6-6	9/16-18	3/8	1.06	1.25
8-8	3/4-16	1/2	1.25	1.45
10-10	7/8-14	5/8	1.45	1.70
12-12	1 1/16-12	3/4	1.66	1.94
14-14	1 3/16-12	7/8	1.73	2.00
16-16	1 5/16-12	1	1.81	2.05
20-20	1 5/8-12	1 1/4	2.06	2.25
24-24	1 7/8-12	1 1/2	2.33	2.39
32-32	2 1/2-12	2	3.06	2.89

Sleeve



Part No. 06S - (Dash size)
Use With 06B Nut To Connect Any
SAE (JIC) 37° Flare Adapter To Tubing

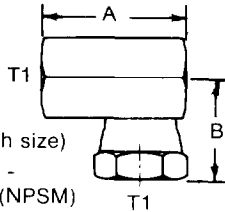
Dash Size (Steel)	Tube Size (O.D.)	A
-2	1/8	.34
-3	3/16	.34
-4	1/4	.41
-5	5/16	.44
-6	3/8	.50
-8	1/2	.56
-10	5/8	.66
-12	3/4	.68
-14	7/8	.76
-16	1	.78
-20	1 1/4	.91
-24	1 1/2	1.12
-32	2	1.19

Hose Adapters

Female Pipe Swivel

Female pipe swivel adapters, furnished in cadmium plated steel, are designed to prevent hose stress due to twisting during assembly, and to reduce the need for a variety of hose fittings. The female swivel end of these adapters is a straight pipe thread (NPSM) with a 30° seat. All male pipe fittings that are used with these female pipe swivel adapters, must have a 30° seat in order to effect a proper seal. All male pipe hose fittings contain this 30° seat.

Female Pipe 90° Elbow

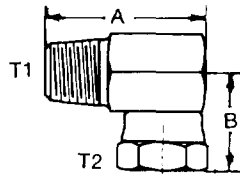


Part No. 2207 - (Dash size)

Female Pipe (NPTF) -
Female Pipe Swivel (NPSM)

Dash Size (Steel)	T ₁ Pipe Thread	A	B
2-2	1/8-27	.91	.81
4-4	1/4-18	1.16	.96
6-6	3/8-18	1.44	1.08
8-8	1/2-14	1.72	1.30
12-12	3/4-14	2.00	1.54
16-16	1 -11 1/2	2.44	1.73
20-20	1 1/4-11 1/2	2.88	1.95
24-24	1 1/2-11 1/2	3.12	2.17
32-32	2 -11 1/2	—	—

Male Pipe 90° Elbow

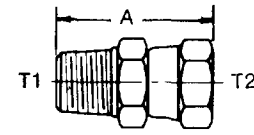


Part No. 2107 - (Dash size)

Male Pipe (NPTF) -
Female Pipe Swivel (NPSM)

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Pipe Thread	A	B
2-2	1/8-27	1/8-27	1.08	.81
4-4	1/4-18	1/4-18	1.53	.96
6-4	3/8-18	1/4-18	1.59	.96
4-6	1/4-18	3/8-18	1.59	1.08
6-6	3/8-18	3/8-18	1.59	1.08
8-6	1/2-14	3/8-18	1.78	1.08
6-8	3/8-18	1/2-14	1.75	1.16
8-8	1/2-14	1/2-14	1.94	1.30
8-12	1/2-14	3/4-14	2.23	1.54
12-6	3/4-14	3/8-18	1.78	1.17
12-8	3/4-14	1/2-14	1.94	1.33
12-12	3/4-14	3/4-14	2.23	1.54
16-12	1 -11 1/2	3/4-14	2.42	1.60
16-16	1 -11 1/2	1 -11 1/2	2.69	1.73
20-20	1 1/4-11 1/2	1 1/4-11 1/2	3.22	1.95
24-24	1 1/2-11 1/2	1 1/2-11 1/2	3.53	2.17
32-32	2 -11 1/2	2 -11 1/2	4.81	2.47

Male Pipe Adapter

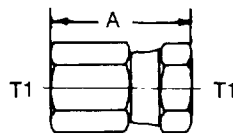


Part No. 0107 - (Dash size)

Male Pipe (NPTF) -
Female Pipe Swivel (NPSM)

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Pipe Thread	A
2-2	1/8-27	1/8-27	1.09
2-4	1/8-27	1/4-18	1.24
4-4	1/4-18	1/4-18	1.43
4-6	1/4-18	3/8-18	1.45
4-8	1/4-18	1/2-14	1.72
6-6	3/8-18	3/8-18	1.51
6-4	3/8-18	1/4-18	1.49
6-8	3/8-18	1/2-14	1.72
8-8	1/2-14	1/2-14	1.92
8-6	1/2-14	3/8-18	1.70
8-12	1/2-14	3/4-14	2.04
12-12	3/4-14	3/4-14	2.04
12-8	3/4-14	1/2-14	1.92
12-16	3/4-14	1 -11 1/2	2.17
16-12	1 -11 1/2	3/4-14	2.29
16-16	1 -11 1/2	1 -11 1/2	2.37
16-20	1 -11 1/2	1 1/4-11 1/2	2.39
20-20	1 1/4-11 1/2	1 1/4-11 1/2	2.48
24-24	1 1/2-11 1/2	1 1/2-11 1/2	2.61
32-32	2 -11 1/2	2 -11 1/2	2.80

Female Pipe Adapter

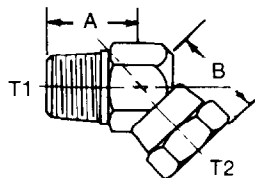


Part No. 0207 - (Dash size)

Female Pipe (NPTF) -
Female Pipe Swivel (NPSM)

Dash Size (Steel)	T ₁ Pipe Thread	A
2-2	1/8-27	1.03
4-4	1/4-18	1.43
6-6	3/8-18	1.51
8-8	1/2-14	1.80
12-12	3/4-14	1.97
16-16	1 -11 1/2	2.37
20-20	1 1/4-11 1/2	2.39
24-24	1 1/2-11 1/2	2.42
32-32	2 -11 1/2	2.54

Male Pipe 45° Elbow

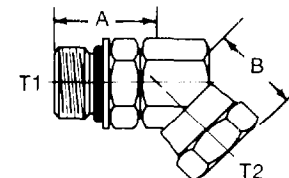


Part No. 3107 - (Dash size)

Male Pipe (NPTF) -
Female Pipe Swivel (NPSM)

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Pipe Thread	A	B
2-2	1/8-27	1/8-27	.53	.78
4-4	1/4-18	1/4-18	.81	.91
6-6	3/8-18	3/8-18	.81	1.00
8-6	1/2-14	3/8-18	1.00	1.00
8-8	1/2-14	1/2-14	1.06	1.18
12-8	3/4-14	1/2-14	1.03	1.21
12-12	3/4-14	3/4-14	1.09	1.37
16-12	1 -11 1/2	3/4-14	1.22	1.44
16-16	1 -11 1/2	1 -11 1/2	1.33	1.50
20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.41	1.52
24-24	1 1/2-11 1/2	1 1/2-11 1/2	1.56	1.78
32-32	2 -11 1/2	2 -11 1/2	2.25	1.88

SAE Straight Thread 45° Elbow



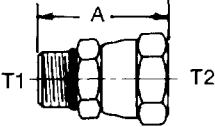
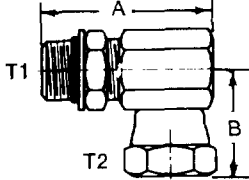

Part No. 3507 - (Dash size)

SAE Straight Thread With O Ring -
Female Pipe Swivel (NPSM)

Dash Size (Steel)	T ₁ Straight Thread	T ₂ Pipe Thread	Tube Size	A	B
4-4	7/16-20	1/4-18	1/8	.95	.91
6-6	9/16-18	3/8-18	3/8	1.02	1.00
8-6	3/4-16	3/8-18	1/2	1.19	1.00
8-8	3/4-16	1/2-14	1/2	1.19	1.18
10-8	7/8-14	1/2-14	5/8	1.33	1.18
8-12	3/4-16	3/4-14	1/2	1.22	1.37
12-12	1 1/16-12	3/4-14	3/4	1.50	1.37
16-16	1 3/16-12	1-11 1/2	1	1.55	1.50

Female Pipe Swivel

Hose Adapters

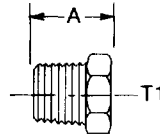
SAE Straight Thread Adapter					SAE Straight Thread 90° Elbow						O Ring		
													
<p>Part No. 0507 - (Dash size) SAE Straight Thread With O Ring - Female Pipe Swivel (NPSM)</p>					<p>Part No. 2507 - (Dash size) SAE Straight Thread With O Ring - Female Pipe Swivel (NPSM)</p>						<p>Part No. 711509 - (Dash size) Use With All SAE Straight Thread Adapters For Mounting With Internal Straight Thread Boss. Compound N552-9 For Petroleum Based Fluids.</p>		
Dash Size (Steel)	T ₁ Straight Thread	T ₂ Pipe Thread	Tube O.D.	A	Dash Size (Steel)	T ₁ Straight Thread	T ₂ Pipe Thread	Tube O.D.	A	B	Dash Size	Thread Size (Ref.)	Tube O.D.
4-4	7/16-20	1/4-18	1/4	1.32	4-4	7/16-20	1/4-18	1/4	1.41	.96	-13	5/16-24	1/8
6-4	9/16-18	1/4-18	3/8	1.35	6-4	9/16-18	1/4-18	3/8	1.47	.96	-12	3/8-24	3/16
8-4	3/4-16	1/4-18	1/4	1.43	6-6	9/16-18	3/8-18	3/8	1.69	1.08	-1	7/16-20	1/4
6-6	9/16-18	3/8-18	3/8	1.37	8-6	3/4-16	3/8-18	1/2	1.78	1.08	-2	1/2-20	5/16
8-6	3/4-16	3/8-18	1/2	1.45	10-6	7/8-14	3/8-18	5/8	1.94	1.08	-3	9/16-18	3/8
6-8	9/16-18	1/2-14	3/8	1.58	8-8	3/4-16	1/2-14	1/2	1.94	1.30	-4	3/4-16	1/2
8-8	3/4-16	1/2-14	1/2	1.58	10-8	7/8-14	1/2-14	5/8	2.06	1.30	-5	7/8-14	5/8
10-8	7/8-14	1/2-14	5/8	1.74	12-8	1 1/16-12	1/2-14	3/4	2.22	1.36	-6	1 1/16-12	3/4
12-8	1 1/16-12	1/2-14	3/4	1.89	8-12	3/4-16	3/4-14	1/2	2.19	1.54	-11	1 3/16-12	7/8
8-12	3/4-16	3/4-14	1/2	1.79	10-12	7/8-14	3/4-14	5/8	2.33	1.54	-7	1 5/16-12	1
12-12	1 1/16-12	3/4-14	3/4	2.01	12-12	1 1/16-12	3/4-14	3/4	2.47	1.54	-8	1 5/8-12	1 1/4
16-16	1 5/16-12	1 -11 1/2	1	2.12	16-16	1 5/16-12	1 -11 1/2	1	2.75	1.73	-9	1 7/8-12	1 1/2
20-20	1 5/8-12	1 1/4-11 1/2	1 1/4	2.22	20-20	1 5/8-12	1 1/4-11 1/2	1 1/4	3.23	2.14	-10	2 1/2-12	2
24-24	1 7/8-12	1 1/2-11 1/2	1 1/2	2.39									
32-32	2 1/2-12	2 -11 1/2	2	2.48									

Hose Adapters

Pipe

pipe adapters are available for pipe-to-pipe thread, pipe-to-straight thread, and straight-to-straight thread. Steel adapters are furnished cadmium plated and are made from close grained non-porous steel forgings or steel bar stock. Most shapes and sizes are also available in brass or type 316 stainless steel. These adapters have Dryseal American (National Standard) Taper (N. P. T. F.) pipe threads and Unified Class 2A male and 2B female straight threads.

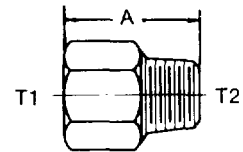
Hex Head Plug



Part No. 01CP - (Dash size)
Male Pipe

Dash Size (Steel)	T ₁ Pipe Thread	A
-2	1/8-27	.56
-4	1/4-18	.75
-6	3/8-18	.78
-8	1/2-14	.95
-12	3/4-14	1.15
-16	1 - 1 1/2	1.34

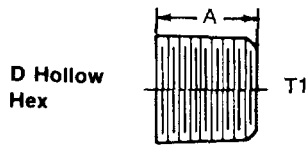
Reducing Adapter



Part No. 0201 - (Dash size)
Female Pipe - Reduced Male Pipe

Dash Size (Steel)	T ₁ Female Pipe Thread	T ₂ Male Pipe Thread	A
4-2	1/4-18	1/8-27	1.22
6-4	3/8-18	1/4-18	1.44
8-6	1/2-14	3/8-18	1.69
8-4	1/2-14	1/4-18	1.69
8-2	1/2-14	1/8-27	1.50
12-8	3/4-14	1/2-14	1.94
12-4	3/4-14	1/4-18	1.78
16-8	1 - 11 1/2	1/2-14	2.16
16-12	1 - 11 1/2	3/4-14	2.19
20-16	1 1/4-11 1/2	1 - 11 1/2	2.47
24-20	1 1/2-11 1/2	1 1/4-11 1/2	2.50
32-24	2 - 11 1/2	1 1/2-11 1/2	2.63

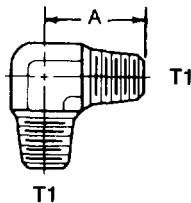
Hollow Hex Plug



Part No. 01HP - (Dash size)
Male Pipe

Dash Size (Steel)	T ₁ Pipe Thread	A	D Hex
-1	1/16-27	.30	5/32
-2	1/8-27	.30	3/16
-4	1/4-18	.47	1/4
-6	3/8-18	.47	5/16
-8	1/2-14	.61	3/8

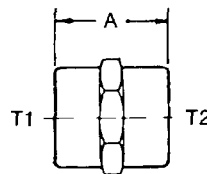
Male Pipe 90° Elbow



Part No. 2101 - (Dash size)
Male Pipe Both Ends

Dash Size (Steel)	T ₁ Male Pipe Thread	A
2-2	1/8-27	.78
4-4	1/4-18	1.09
6-6	3/8-18	1.22
8-8	1/2-14	1.47
12-12	3/4-14	1.59
16-16	1 - 11 1/2	1.97
20-20	1 1/4-11 1/2	2.38
24-24	1 1/2-11 1/2	2.64
32-32	2 - 11 1/2	3.00

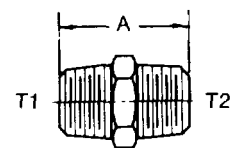
Female Pipe Connector



Part No. 0202 - (Dash size)
Female Pipe - Female Pipe

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Pipe Thread	A
2-2	1/8-27	1/8-27	.75
2-4	1/8-27	1/4-18	.94
4-4	1/4-18	1/4-18	1.13
2-6	1/8-27	3/8-18	1.03
4-6	1/4-18	3/8-18	1.13
6-6	3/8-18	3/8-18	1.13
4-8	1/4-18	1/2-14	1.38
6-8	3/8-18	1/2-14	1.50
8-8	1/2-14	1/2-14	1.50
8-12	1/2-14	3/4-14	1.88
12-12	3/4-14	3/4-14	1.53
16-16	1 - 11 1/2	1 - 11 1/2	1.89
16-20	1 - 11 1/2	1 1/4-11 1/2	1.94
20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.94
24-24	1 1/2-11 1/2	1 1/2-11 1/2	1.94
32-32	2 - 11 1/2	2 - 11 1/2	1.97

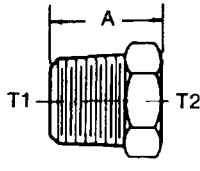
Male Pipe Nipple



Part No. 0101 - (Dash size)
Male Pipe - Male Pipe

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Pipe Thread	A
2-2	1/8-27	1/8-27	1.06
2-4	1/8-27	1/4-18	1.25
4-4	1/4-18	1/4-18	1.45
2-6	1/8-27	3/8-18	1.27
4-6	1/4-18	3/8-18	1.45
6-6	3/8-18	3/8-18	1.45
4-8	1/4-18	1/2-14	1.70
8-8	1/2-14	1/2-14	1.89
8-12	1/2-14	3/4-14	1.97
12-12	3/4-14	3/4-14	1.97
16-16	1 - 11 1/2	1 - 11 1/2	2.34
16-20	1 - 11 1/2	1 1/4-11 1/2	2.45
20-20	1 1/4-11 1/2	1 1/4-11 1/2	2.48
24-24	1 1/2-11 1/2	1 1/2-11 1/2	2.61
32-32	2 - 11 1/2	2 - 11 1/2	2.83

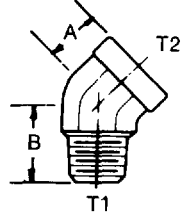
Reducer Bushing



Part No. 0102 - (Dash size)
Male Pipe - Reduced Female Pipe

Dash Size (Steel)	T ₁ Male Pipe Thread	T ₂ Female Pipe Thread	A
4-2	1/4-18	1/8-27	.84
6-4	3/8-18	1/4-18	.84
6-2	3/8-18	1/8-27	.84
8-6	1/2-14	3/8-18	1.09
8-4	1/2-14	1/4-18	1.09
8-2	1/2-14	1/8-27	1.09
12-8	3/4-14	1/2-14	1.17
12-6	3/4-14	3/8-18	1.17
12-4	3/4-14	1/4-18	1.17
16-12	1 -11 1/2	3/4-14	1.36
16-8	1 -11 1/2	1/2-14	1.36
16-6	1 -11 1/2	3/8-18	1.36
20-12	1 1/4-11 1/2	3/4-14	1.48
20-16	1 1/4-11 1/2	1 -11 1/2	1.48
24-16	1 1/2-11 1/2	1 -11 1/2	1.56
24-20	1 1/2-11 1/2	1 1/4-11 1/2	1.56
32-24	2 -11 1/2	1 1/2-11 1/2	1.75

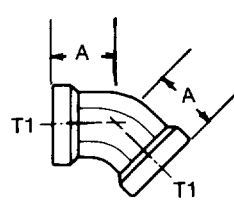
Street Elbow 45°



Part No. 3102 - (Dash size)
Male Pipe - Female Pipe

Dash Size (Steel)	T ₁ Male Pipe Thread	T ₂ Female Pipe Thread	A	B
2-2	1/8-27	1/8-27	.47	.72
4-4	1/4-18	1/4-18	.63	1.05
6-6	3/8-18	3/8-18	.72	1.06
8-8	1/2-14	1/2-14	.91	1.34
12-12	3/4-14	3/4-14	.97	1.38
12-8	3/4-14	1/2-14	.91	1.34
16-16	1 -11 1/2	1 -11 1/2	1.13	1.72
20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.63	1.80
24-24	1 1/2-11 1/2	1 1/2-11 1/2	1.69	2.06
32-32	2 -11 1/2	2 -11 1/2	2.22	2.16

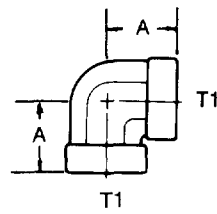
Female Pipe 45° Elbow



Part No. 4202 - (Dash size)
Female Pipe - Female Pipe

Dash Size (Steel)	T ₁ Pipe Thread	A
2-2	1/8-27	.50
4-4	1/4-18	.69
6-6	3/8-18	.75
8-8	1/2-14	.94
12-12	3/4-14	1.00
16-16	1 -11 1/2	1.19
20-20	1 1/4-11 1/2	1.44
24-24	1 1/2-11 1/2	1.46
32-32	2 -11 1/2	1.59

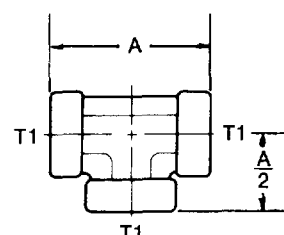
Female Pipe 90° Adapter



Part No. 2202 - (Dash size)
Female Pipe - Female Pipe

Dash Size (Steel)	T ₁ Pipe Thread	A
2-2	1/8-27	.66
4-4	1/4-18	.88
6-6	3/8-18	1.02
8-8	1/2-14	1.23
12-12	3/4-14	1.36
16-16	1 -11 1/2	1.63
20-20	1 1/4-11 1/2	1.70
24-24	1 1/2-11 1/2	2.08
32-32	2 -11 1/2	2.39

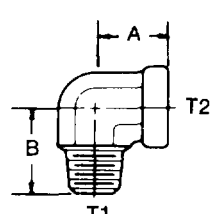
Female Pipe Tee



Part No. 022T - (Dash size)
Female Pipe - All Ends

Dash Size (Steel)	T ₁ Pipe Thread	A
2-2	1/8-27	1.31
4-4	1/4-18	1.75
6-6	3/8-18	2.03
8-8	1/2-14	2.47
12-12	3/4-14	2.72
16-16	1 -11 1/2	3.25
20-20	1 1/4-11 1/2	3.41
24-24	1 1/2-11 1/2	4.16
32-32	2 -11 1/2	4.78

Street Elbow 90°



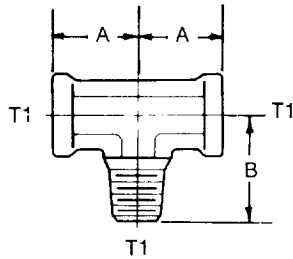
Part No. 2102 - (Dash size)
Male Pipe - Female Pipe

Dash Size (Steel)	T ₁ Male Pipe Thread	T ₂ Female Pipe Thread	A	B
2-2	1/8-27	1/8-27	.66	.78
4-4	1/4-18	1/4-18	.88	1.09
4-2	1/4-18	1/8-27	.66	1.09
6-6	3/8-18	3/8-18	1.02	1.22
8-8	1/2-14	1/2-14	1.23	1.47
12-12	3/4-14	3/4-14	1.36	1.59
12-8	3/4-14	1/2-14	1.23	1.59
16-16	1 -11 1/2	1 -11 1/2	1.63	1.97
20-20	1 1/4-11 1/2	1 1/4-11 1/2	1.70	2.38
24-24	1 1/2-11 1/2	1 1/2-11 1/2	2.08	2.64
32-32	2 -11 1/2	2 -11 1/2	2.39	3.00

Hose Adapters

Pipe

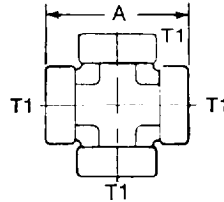
Male Branch Tee



Part No. 212T - (Dash size)
Female Pipe 2 Ends - Male Pipe Branch

Dash Size (Steel)	T ₁ Pipe Thread	A	B
2-2	1/8-27	.66	.78
4-4	1/4-18	.88	1.09
6-6	3/8-18	1.02	1.22
8-8	1/2-14	1.23	1.47
12-12	3/4-14	1.36	1.59
16-16	1 -11 1/2	1.62	1.97
20-20	1 1/4-11 1/2	1.70	2.38
24-24	1 1/2-11 1/2	2.08	2.64
32-32	2 -11 1/2	2.39	3.00

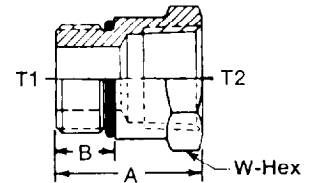
Female Pipe Cross



Part No. 022X - (Dash size)
Female Pipe - All Ends

Dash Size (Steel)	T ₁ Pipe Thread	A
-2	1/8-27	1.31
-4	1/4-18	1.75
-6	3/8-18	2.03
-8	1/2-14	2.47
-12	3/4-14	2.72
-16	1 -11 1/2	3.25
-20	1 1/4-11 1/2	3.41
-24	1 1/2-11 1/2	4.16
-32	2 -11 1/2	4.78

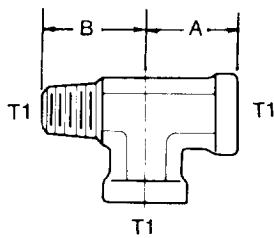
SAE Straight Thread Reducers - Expanders



Part No. 0510 - (Dash size)
SAE Straight Thread With O Ring - Internal Straight Thread Boss

Dash Size (Steel)	T ₁ External Straight Thread	T ₂ Internal Straight Thread	A	B	W Hex
4-5	7/16-20	1/2-20	1.08	.360	3/4
4-6	7/16-20	9/16-18	1.16	.360	13/16
6-4	9/16-18	7/16-20	.97	.391	11/16
6-8	9/16-18	3/4-16	1.38	.391	11/16
8-6	3/4-16	9/16-18	1.06	.438	7/8
8-10	3/4-16	7/8-14	1.56	.438	1 1/8
10-6	7/8-14	9/16-18	.81	.500	1
10-8	7/8-14	3/4-16	1.31	.500	1
10-12	7/8-14	1 1/16-12	1.69	.500	1 3/8
12-8	1 1/16-12	3/4-16	1.00	.594	1 1/4
12-10	1 1/16-12	7/8-14	1.44	.594	2 1/4
12-14	1 1/16-12	1 3/16-12	1.75	.594	1 1/2
12-16	1 1/16-12	1 5/16-12	1.83	.594	1 5/8
14-10	1 3/16-12	7/8-14	1.00	.594	1 3/4
14-12	1 3/16-12	1 1/16-12	1.75	.594	1 1/2
16-8	1 5/16-12	3/4-16	1.00	.594	1 1/2
16-12	1 5/16-12	1 1/16-12	1.75	.594	1 1/2
16-16	1 5/16-12	1 5/8-12	1.97	.594	2 1/8
20-10	1 5/8-12	7/8-14	1.00	.594	1 7/8
20-12	1 5/8-12	1 1/16-12	1.00	.594	1 7/8
20-16	1 5/8-12	1 5/16-12	1.00	.594	1 7/8
20-24	1 5/8-12	1 7/8-12	1.88	.594	2 1/2
24-12	1 7/8-12	1 1/16-12	1.00	.594	2 1/8
24-16	1 7/8-12	1 5/16-12	1.00	.594	2 1/8
24-20	1 7/8-12	1 5/8-12	1.59	.594	2 1/8
32-16	2 1/2-12	1 5/16-12	1.00	.594	2 3/4
32-20	2 1/2-12	1 5/8-12	1.00	.594	2 3/4
32-24	2 1/2-12	1 7/8-12	1.00	.594	2 3/4

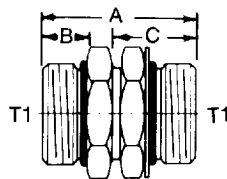
Street Tee



Part No. 012T - (Dash size)
Female Pipe 2 Ends - Male Pipe Run

Dash Size (Steel)	T ₁ Pipe Thread	A	B
2-2	1/8-27	.66	.78
4-4	1/4-18	.88	1.09
6-6	3/8-18	1.02	1.22
8-8	1/2-14	1.23	1.47
12-12	3/4-14	1.36	1.59
16-16	1 -11 1/2	1.62	1.97
20-20	1 1/4-11 1/2	1.70	2.38
24-24	1 1/2-11 1/2	2.08	2.64
32-32	2 -11 1/2	2.39	3.00

SAE Straight Thread Union



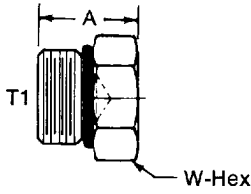
Part No. 0505 - (Dash size)
SAE Straight Thread With O Ring - Both Ends

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B	C
2-2	5/16-24	1/8	1.22	.30	.61
3-3	3/8-24	3/16	1.16	.30	.61
4-4	7/16-20	1/4	1.22	.36	.70
5-5	1/2-20	5/16	1.22	.36	.70
6-6	9/16-18	3/8	1.41	.39	.77
8-8	3/4-16	1/2	1.56	.44	.88
10-10	7/8-14	5/8	1.81	.50	1.02
12-12	1 1/16-12	3/4	2.13	.59	1.16
14-14	1 3/16-12	7/8	2.13	.59	1.16
16-16	1 5/16-12	1	2.13	.59	1.16
20-20	1 5/8-12	1 1/4	2.13	.59	1.16
24-24	1 7/8-12	1 1/2	2.13	.59	1.16
32-32	2 1/2-12	2	2.13	.59	1.16

Pipe

Hose Adapters

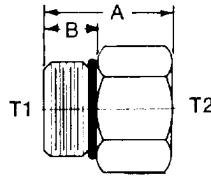
Hex Head Plug



Part No. 05CP - (Dash size)
SAE Straight Thread with O Ring

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	W Hex
-2	5/16-24	1/8	.60	7/16
-3	3/8-24	3/16	.60	1/2
-4	7/16-20	1/4	.67	9/16
-5	1/2-20	5/16	.67	5/8
-6	9/16-18	3/8	.73	11/16
-8	3/4-16	1/2	.80	7/8
-10	7/8-14	5/8	.93	1
-12	1 1/16-12	3/4	1.09	1 1/4
-14	1 3/16-12	7/8	1.09	1 3/8
-16	1 5/16-12	1	1.12	1 1/2
-20	1 5/8-12	1 1/4	1.20	1 7/8
-24	1 7/8-12	1 1/2	1.27	2 1/8
-32	2 1/2-12	2	1.43	2 3/4

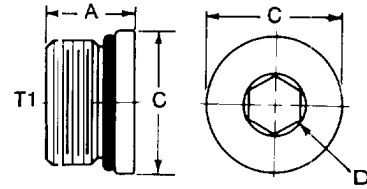
Straight Thread Adapter



Part No. 0502 - (Dash size)
SAE Straight Thread With O Ring - Female Pipe

Dash Size (Steel)	T ₁ Straight Thread	T ₂ Pipe Thread	Tube Size	A	B
6-4	9/16-18	1/4-18	3/8	1.09	.391
8-6	3/4-16	3/8-18	1/2	1.22	.438
8-4	3/4-16	1/4-18	1/2	1.06	.438
8-8	3/4-16	1/2-14	1/2	1.44	.438
10-12	7/8-14	3/4-14	5/8	1.63	.500
10-8	7/8-14	1/2-14	5/8	1.50	.500
10-6	7/8-14	3/8-18	5/8	1.25	.500
10-4	7/8-14	1/4-18	5/8	.81	.500
12-12	1 1/16-12	3/4-14	3/4	1.66	.594
12-8	1 1/16-12	1/2-14	3/4	1.34	.594
14-12	1 3/16-12	3/4-14	7/8	1.63	.594
14-8	1 3/16-12	1/2-14	7/8	1.00	.594
16-16	1 5/16-12	1 -11 1/2	1	1.88	.594
16-12	1 5/16-12	3/4-14	1	1.50	.594
16-8	1 5/16-12	1/2-14	1	1.00	.594
20-20	1 5/8-12	1 1/4-11 1/2	1 1/4	1.94	.594
20-16	1 5/8-12	1 -11 1/2	1 1/4	1.00	.594
24-24	1 7/8-12	1 1/2-11 1/2	1 1/2	2.00	.594
24-16	1 7/8-12	1 -11 1/2	1 1/2	1.00	.594
32-32	2 1/2-12	2 -11 1/2	2	2.06	.594
32-24	2 1/2-12	1 1/2-11 1/2	2	1.00	.594
32-16	2 1/2-12	1 -11 1/2	2	1.00	.594

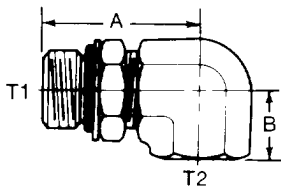
Hollow Hex Plug



Part No. 05HP - (Dash size)
SAE Straight Thread with O Ring

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	C Dia.	D Int. Hex
-2	5/16-24	1/8	.38	.44	1/8
-3	3/8-24	3/16	.38	.50	1/8
-4	7/16-20	1/4	.45	.56	3/16
-5	1/2-20	5/16	.45	.63	3/16
-6	9/16-18	3/8	.48	.69	1/4
-8	3/4-16	1/2	.56	.88	5/16
-10	7/8-14	5/8	.63	1.00	3/8
-12	1 1/16-12	3/4	.75	1.25	9/16
-14	1 3/16-12	7/8	.75	1.38	9/16
-16	1 5/16-12	1	.75	1.50	5/8
-20	1 5/8-12	1 1/4	.75	1.88	3/4

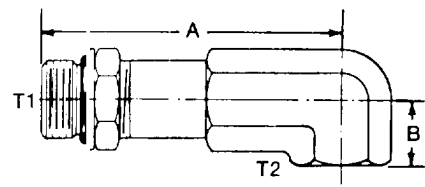
SAE Straight Thread 90° Elbow



Part No. 2502 - (Dash size)
SAE Straight Thread with O-Ring - Female Pipe

Dash Size (Steel)	T ₁ Straight Thread	T ₂ Pipe Thread	Tube Size	A	B
8-6	3/4-16	3/8-18	1/2	1.47	.63
10-8	7/8-14	1/2-14	5/8	1.81	.75
12-12	1 1/16-12	3/4-14	3/4	2.00	.81
16-16	1 5/16-12	1 -11 1/2	1	2.25	1.00

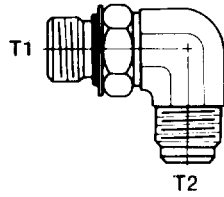
Long SAE Straight Thread 90° Elbow



Part No. 5502 - (Dash size)
SAE Straight Thread with O-Ring - Female Pipe

Dash Size (Steel)	T ₁ Straight Thread	T ₂ Pipe Thread	Tube Size	A	B
8-6	3/4-16	3/8-18	1/2	2.94	.63
10-8	7/8-14	1/2-14	5/8	3.56	.75
12-12	1 1/16-12	3/4-14	3/4	4.13	.81
16-16	1 5/16-12	1 -11 1/2	1	4.63	1.00

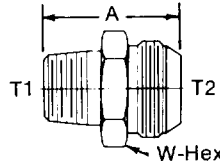
SAE Straight Thread 90° Elbow



Part No. 2504 - (Dash size)
Male SAE 45° Flare - SAE Straight Thread With O Ring

Dash Size (Steel)	T ₁ Straight Thread	T ₂ Straight Thread	Tube Size
10-10	7/8-14	7/8-14	5/8

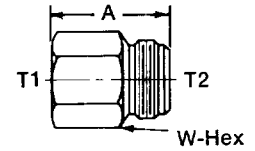
Male PTT Adapter



Part No. 0109 - (Dash size)
Male PTT 30° Flare - Male Pipe

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A	W
12-16	3/4-14	1 1/16-14	1	1.84	1 3/8
16-16	1 -11 1/2	1 5/16-14	1	1.03	1 3/8
20-20	1 1/4-11 1/2	1 3/8-14	1 1/4	1.22	1 3/4
24-24	1 1/2-11 1/2	1 7/8-14	1 1/2	2.50	2
32-32	2 -11 1/2	2 1/2-12	2	3.06	2 7/8

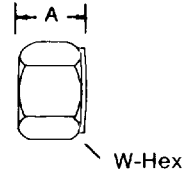
Female PTT Adapter



Part no. 0209 - (Dash size)
Male PTT 30° Flare - Female Pipe

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube O.D.	A	W
16-16	1 -11 1/2	1 5/16-14	1	2.03	1 1/2
20-20	1 1/4-11 1/2	1 3/8-14	1 1/4	2.13	2
24-24	1 1/2-11 1/2	1 7/8-14	1 1/2	2.25	2 1/4
32-32	2 -11 1/2	2 1/2-12	2	3.06	2 5/8

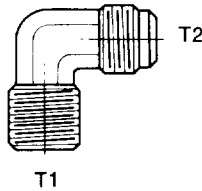
Nut



Part No. 111 - (Dash size)
Use With 110 Ferrule For Ferrul-Fix Hose Fittings

Dash Size (Steel)	Straight Thread	Tube Size	A	W Hex
-4	7/16-20	1/4	.70	9/16
-5	1/2-20	5/16	.72	5/8
-6	9/16-18	3/8	.75	1 1/16
-8	3/4-16	1/2	.84	7/8
-10	7/8-14	3/8	.92	1
-12	1 1/16-12	3/4	.97	1 1/4
-14	1 3/16-12	7/8	1.0	1 3/8
-16	1 5/16-12	1	1.05	1 1/2

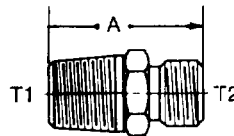
Male 90° Elbow



Part No. 2104 - (Dash size)
Male SAE 45° Flare - Male Pipe

Dash Size (Brass)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size
2-4B	1/8-27	7/16-20	1/4
4-4B	1/4-18	7/16-20	1/4
6-4B	3/8-18	7/16-20	1/4
2-5B	1/8-27	1/2-20	5/16
4-5B	1/4-18	1/2-20	5/16
4-6B	1/4-18	5/8-18	3/8
6-6B	3/8-18	5/8-18	3/8
6-8B	1/2-14	5/8-18	3/8
4-8B	1/4-18	3/4-16	1/2
6-8B	3/8-18	3/4-16	1/2
8-8B	1/2-14	3/4-16	1/2
6-10B	3/8-18	3/4-16	1/2
8-10B	1/2-14	7/8-14	5/8
12-10B	3/4-14	7/8-14	5/8
8-12B	1/2-14	1 1/16-14	3/4
12-12B	3/4-14	1 1/16-14	3/4

SAE Flareless Adapter



Part No. 0111 - (Dash size)
Male SAE Flareless Body - Male Pipe (black phosphate coated)

Dash Size (Steel)	T ₁ Pipe Thread	T ₂ Straight Thread	Tube Size	A
2-4	1/8-27	7/16-20	1/4	1.12
4-4	1/4-18	7/16-20	1/4	1.33
8-4	1/2-14	7/16-20	1/4	1.58
2-5	1/8-27	1/2-20	5/16	1.12
4-5	1/4-18	1/2-20	5/16	1.33
4-6	1/4-18	9/16-18	3/8	1.34
2-6	1/8-27	9/16-18	3/8	1.16
6-6	3/8-18	9/16-18	3/8	1.34
8-6	1/2-14	9/16-18	3/8	1.59
4-8	1/4-18	3/4-16	1/2	1.44
6-8	3/8-18	3/4-16	1/2	1.44
8-8	1/2-14	3/4-16	1/2	1.69
8-10	1/2-14	7/8-14	5/8	1.75
6-10	3/8-18	7/8-14	5/8	1.56
8-12	1/2-14	1 1/16-12	3/4	1.88
12-12	3/4-14	1 1/16-12	3/4	1.88
12-14	3/4-14	1 3/16-12	7/8	1.88
12-16	3/4-14	1 5/16-12	1	1.88
16-16	1 -11 1/2	1 5/16-12	1	2.08

Ferrule



Part No. 110 - (Dash size)
Use with 111 Nut For Ferrul-Fix Hose Fittings

Dash Size (Steel)	Tube Size
-4	1/4
-5	5/16
-6	3/8
-8	1/2
-10	5/8
-12	3/4
-14	7/8
-16	1

Hose Adapters

SAE (JIC) 37° Flare Tube Adapters

Swivel Nut 90° Tube Elbow*

Part No. 39T3 - (Dash size)
Male SAE (JIC) 37° Flare - Female SAE (JIC) 37° Swivel

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B
8-8	3/4-16	1/2	1.76	1.09
10-10	7/8-14	5/8	1.87	1.23
12-12	1 1/16-12	3/4	2.46	1.82
16-16	1 5/16-12	1	2.79	2.14
20-20	1 7/8-12	1 1/4	3.12	2.38

Straight Flange Connector*

Part No. 15T3 - (Dash size)
SAE Flange - Male SAE (JIC) 37° Flare

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	Flange Size	A
8-8	3/4-16	1/2	1/2	1.73
12-12	1 1/16-12	3/4	3/4	1.89
16-12	1 1/16-12	3/4	1	1.89
16-16	1 5/16-12	1	1	2.01
20-16	1 5/16-12	1	1 1/4	2.02
20-20	1 5/8-12	1 1/4	1 1/4	2.69
24-24	1 7/8-12	1 1/2	1 1/2	3.10
32-32	2 1/2-12	2	2	3.77

90° Elbow Flange Connector*

Part No. 19T3 - (Dash size)
SAE Flange - Male SAE (JIC) 37° Flare

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	Flange Size	A	B
8-8	3/4-16	1/2	1/2	1.79	1.69
12-12	1 1/16-12	3/4	3/4	2.46	2.12
16-12	1 1/16-12	3/4	1	2.46	2.12
16-16	1 5/16-12	1	1	2.89	2.37
20-12	1 1/16-12	3/4	1 1/4	2.46	2.12
20-16	1 5/16-12	1	1 1/4	2.79	2.37
20-20	1 5/8-12	1 1/4	1 1/2	3.12	2.50
20-24	1 7/8-12	1 1/2	1 1/2	3.48	2.68
24-20	1 5/8-12	1 1/4	1 1/2	3.12	2.56
24-24	1 7/8-12	1 1/2	1 1/2	3.48	2.75
32-32	2 1/2-12	2	2	4.25	3.25

Swivel Nut 90° Tube Elbow Long*

Part No. 41T3 - (Dash size)
Male SAE (JIC) 37° Flare - Female SAE (JIC) 37° Swivel

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	A	B
8-8	3/4-16	1/2	1.89	2.43
10-10	7/8-14	5/8	2.12	2.56
12-12	1 1/16-12	3/4	2.46	3.73
16-16	1 5/16-12	1	2.65	4.32

45° Elbow Flange Connector*

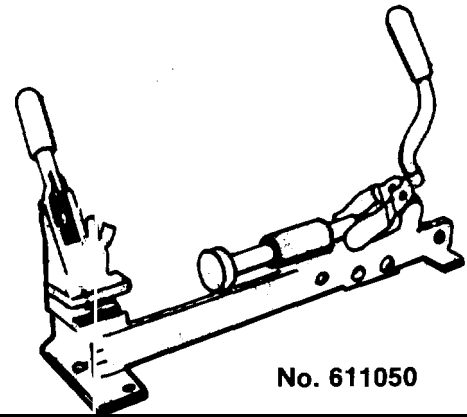
Part No. 17T3 - (Dash size)
SAE Flange - Male SAE (JIC) 37° Flare

Dash Size (Steel)	T ₁ Straight Thread	Tube Size	Flange Size	A	B
8-8	3/4-16	1/2	1/2	2.80	1.04
12-12	1 1/16-12	3/4	3/4	2.74	1.00
16-12	1 1/16-12	3/4	1	2.75	1.00
16-16	1 5/16-12	1	1	3.04	1.12
20-16	1 5/16-12	1	1 1/4	3.04	1.12
20-20	1 5/8-12	1 1/4	1 1/4	3.22	1.12
24-20	1 5/8-12	1 1/4	1 1/2	3.26	1.16
24-24	1 7/8-12	1 1/2	1 1/2	3.44	1.12
32-32	2 1/2-12	2	2	4.02	1.25

***Caution:** Do not use Tube or Flange Adapters with hose types where pressures are in excess of SAE 100R2.

Push-Lok-er

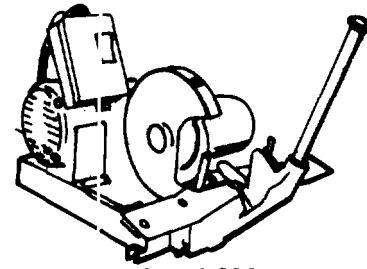
This tool designed for assembly of Push-lok hose fittings and hose in all sizes. Toggle actions greatly reduce effort necessary to hold hose and press in fitting. Only a few pounds of force are needed on either handle to quickly assemble any size. Overall length: 14 inches.



No. 611050

Hose Cut-off Machine

Designed for heavy duty use. Will cut multi-braided wire reinforced hoses including 4 heavy spiral constructions up to 2" inside diameters. Equipped with 3 HP motor 220 V, 3-phase 60 cycle. Shipping weight is 215 lbs., dimensions are 22" wide x 42" long x 24" high. Model 339 comes equipped with 2 cut-off blades of a special scalloped construction.

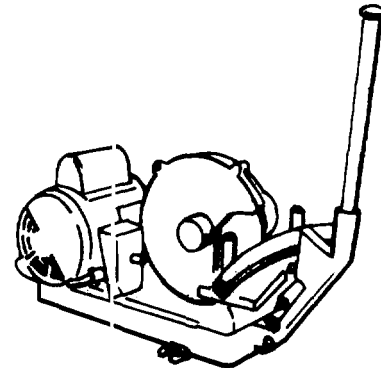


Model 339

Replacement cutting blade **Part No.** 24248

Hose Cut-off Machine

Power unit for quick, easy cutting of industrial cotton or rubber covered fabric braid or wire braid reinforced hose, ranging in size up to 2" inside diameter. Equipped with 1½ HP, 1750 rpm, single phase electric motor and motor control in 115V. Belt driven cutting wheel of high speed steel, hardened and ground for smooth, dust-free, long-lasting service. Moving parts shielded by guards. Adaptable to 230V.

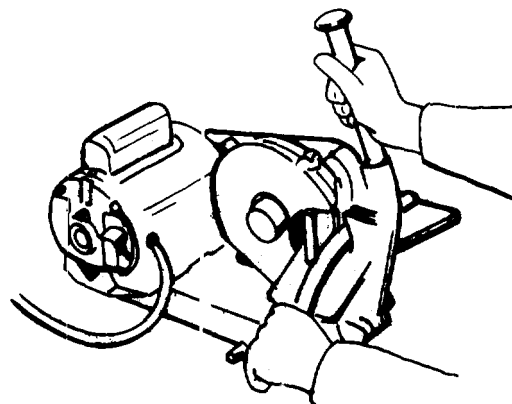


Model 332T

Replacement cutting blade **Part No.** 580661

Hose Cut-off Machine

Compact, ruggedly built power unit for quick, easy cutting of cotton or rubber covered, fabric or wire reinforced hose, handling up to 1¼" I.D. 2 wire braid or 1" I.D. 4 spiral wrap hose. 1 HP, 110V, 60 cycle, single phase motor.



Model 320

Replacement cutting blade **Part No.** 621102

Karrykut

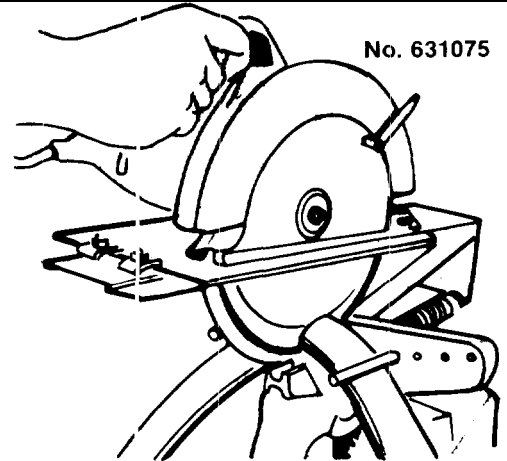
A portable power saw for making up hose assemblies on the job. Hardened steel blade powered by 115V (13 amp) universal AC-DC motor. Hand grip, trigger control. Has unique clamp which spreads hose as it is cut to prevent binding of blade. Produces clean cut-off of rubber or cotton covered, wire or fabric reinforced hose from -4 through -32 inside diameter.

Universal Clamp Attachment*	631076
Replacement Blade (8" with 5/8 arbor size)	580661
Replacement Power Saw (less clamp and Blade)	631140

Universal clamp attachment may be used with any portable power saw unit have a S/B" arbor, 8" blade capacity.

**May be used with any portable power saw unit having a S/B" arbor, 8" blade capacity.*

Request Bulletin 4497-B1 for operating instructions.



Hozembler

The 432 Hozembler is a power machine to facilitate the attachment of reusable hose fittings. It readily handles all types of hose and fittings in sizes -3 through -32 I.D., including standard bent tube elbows. The 432 will also handle assembly of 741 (4 heavy wire spiral) thru -24 I.D. 1/2 HP. 115V universal AC-DC motor.

NOTE: 432 is supplied complete with foot switch and safety guard.

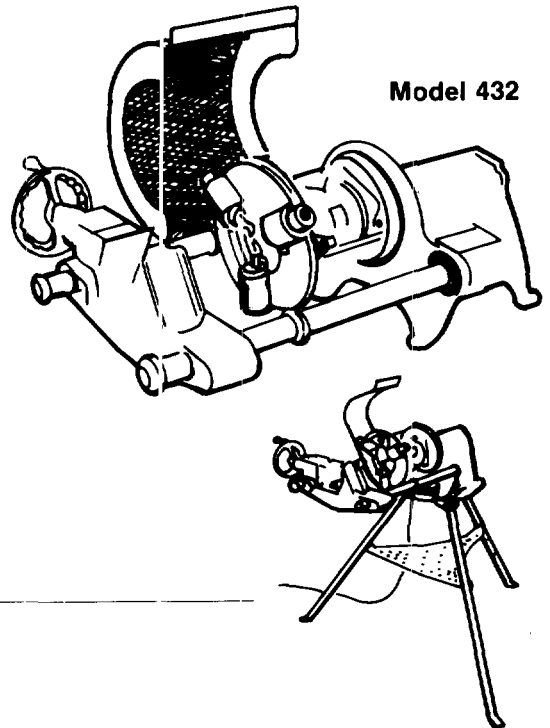
	Part No.
Model 432 Hozembler	662450
(complete with vise and all adapters)	
Mounting Stand	662451

Replacement Parts

Hose Vise (complete with 662453 and 662454).	662452
Hose Vise Jaw Plate	662453
Hose Vise Jaw Adapter	662454
Chuck Jaws	662455
Chuck Jaws Adapter Set*	662456

**For use with most bent tube ends and hose fitting hex sizes up to 1/2".*

Request Bulletin 4497-B2 for operating instructions.



Hozembler

The Model 424C Hozembler was developed in response to field requirements for faster coupling attachment. The 424C is a modified version of the rugged field-proven Model 432 and is identical in features except:

Faster chuck speed of 102 RPM vs. Model 432 chuck speed of 32 RPM.

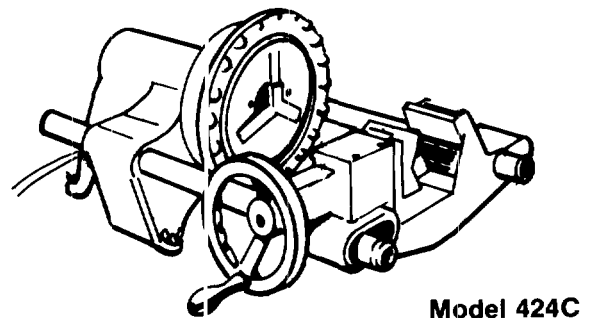
424C size range is limited to size 24 (1 1/2" I.D.) hose and straight couplings, no bent tube or shape capability.

	Part No.
Model 424C Hozembler	692196
(complete with hose vise and adapter)	
Fold-Up Mounting Stand	662451
Foot Switch	741500

Replacement Parts

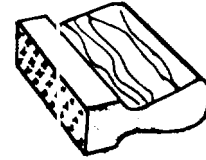
424C Hose Vise (complete with 662453 and 662454)	662452
Hose Vise Jaw Insert	662453
Hose Vise Jaw Adapter	662454
Chuck Jaws	692215

Request Bulletin 4497-B5 for operating instructions.



Hose Perforator

Small hand tool to prick minute holes in the rubber cover of hose to be used in gaseous service where the pressure exceeds 250 p.s.i. The hose perforator is intended to be held in the hand and driven into the cover every few inches of length either by striking or by a slight rolling action. It is not generally necessary to perforate the hose on all sides.

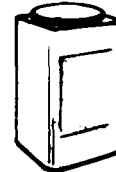


No. 601069

Hoze-Oil

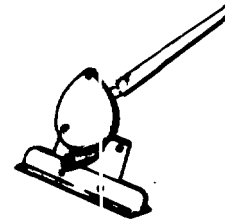
new improved hose assembly lubricant reduces hose assembly make-up time.

Hoze-oil reduces torque and eliminates waste lubrication. It's cleaner too! Simply dip the cut hose ends into **oil and assemble**.



Hose Cut-off Tool

Hose cut-off machine Model 316; NEW, small size, easy to use, manually operated unit for quick cutting of all nylon pressure hoses. Can also be used for Push-lok hose 801, 821 and 831. Ruggedly built for years of trouble-free service.

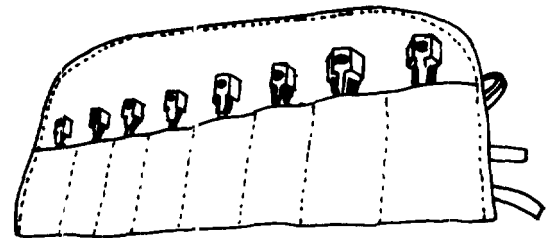


Model 316

Mandrel Tool Kit

For assembling 22 series hose fittings. Kit contains one each of the following:

Hose I.D.	Dash Size	SAE (JIC) 37° Part No.	SAE 45° Part No.
3/16	4	631073-4	631073-4
1/4	5	631073-5	631073-5
5/16	6	631073-6	631074-6
3/8	8	631073-8	631073-8
1/2	10	631073-10	631073-10
5/8	12	631073-12	631074-12



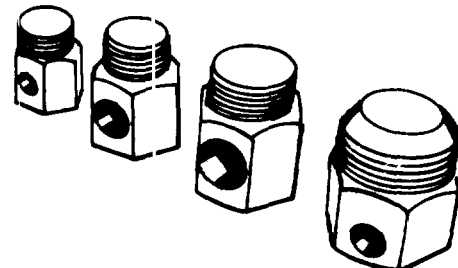
No. 652200

Includes all tools for assembling SAE & JIC fittings in sizes 4 through 12

Assembly Tools

For assembling 22 series hose fittings. Kit contains one each of the following:

Hose I.D.	Dash Size	SAE (JIC) 37° Part No.	PTT 30° Part No.
7/8	16	631073-16	631074-16
1 1/8	20	631073-20	631074-20
1 3/8	24	631073-24	631074-24
1 13/16	32	631073-32	631073-32



No. 652201

NOTE: JIC, SAE and PTT mandrels are interchangeable in all sizes except -6, -12, -16, -20 and -24.

Unipar Sealant

Used to assemble 2LPG hose and 20 series fittings. Forms a flexible vibration-proof seal between hose and fitting to seal LP-Gas. Withstands high pressure yet allows for easy disassembly.



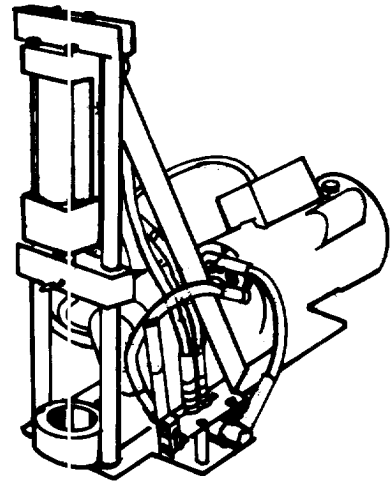
Hose Assembly Equipment

TM 9-4940-544-14&P
Swaging Equipment for
Permanent Teflon Assemblies

Power Swager

Electrically powered with a 1½ H.P. 115-230 volt 60 cycle A-C motor, the 216 swaging machine can complete its operation in less than 10 seconds.

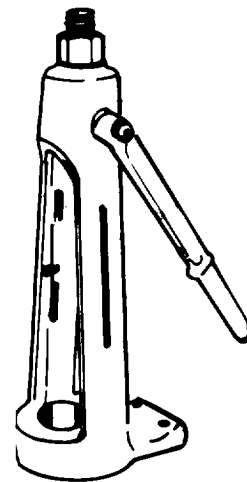
For easy attachment of either brass or stainless steel permanent fittings to Type 909 or 919 Hose of Teflon.



Model 216

Hand Swager

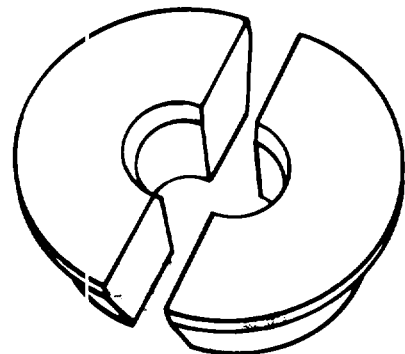
Inexpensive Hand Swager operated with ordinary 1½" open end or box wrench.



Model PMM-1

Swaging Dies

Part Number	Hose Size	Hose I.D.
T-10090-4	-4	3/16
T-10090-5	-5	1/4
T-10090-6	-6	5/16
T-10090-8	-8	13/32
T-10090-10	-10	1/2
T-10090-12	-12	5/8
T-10090-16	-16	7/8
T-10090-20	-20	1 1/8



Each die set contains both die halves for one hose size.

Swaging Pushers

Part No. (Brass Hose Fittings)	Part No. (Stainless Steel Hose Fittings)	End Size
-----------------------------------	--	----------

Male Pipe

T10190-2X	T10191-2XC	1/8
T10190-4X	T10191-4XC	1/4
T10190-6X	T10191-6XC	3/8
T10190-8X	T10191-8XC	1/2
T10190-12X	T10191-12XC	3/4
T10190-16X	T10191-16XC	1
T10190-20X	T10191-20XC	1 1/4

MALE SAE (JIC) 37° FLARE

T10390-6X	—	-6
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SAE (JIC) 37° Swivel

T10690-6X	T10691-6XC	-6
T10690-12X	T10691-12XC	-12
T10690-16X	T10691-16XC	-16
T10690-20X	T10691-20XC	-20

SAE 45° Swivel

T10890-6X	T10891-6XC	-6
T10890-12X	T10891-12XC	-12

SAE (JIC) 37° and SAE 45° Swivel

T16890-4X	T16891-4XC	-4
T16890-5X	T16891-5XC	-5
T16890-8X	T16891-8XC	-8
T16890-10X	T16891-10XC	-10

Straight Tube End

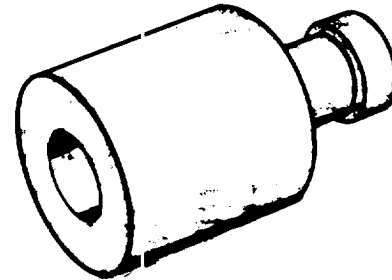
T13490-10XL	—	-10
T13490-12XL	—	-12

Compression Air Brake

T16190-8X	—	-8
T16190-10X	—	-10
T16190-12X	—	-12

SAE Male Inverted Swivel and SAE 45° Swivel Elbow

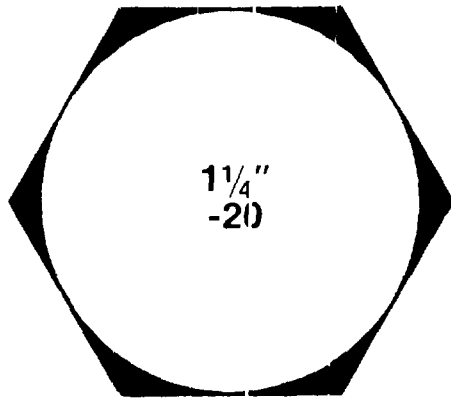
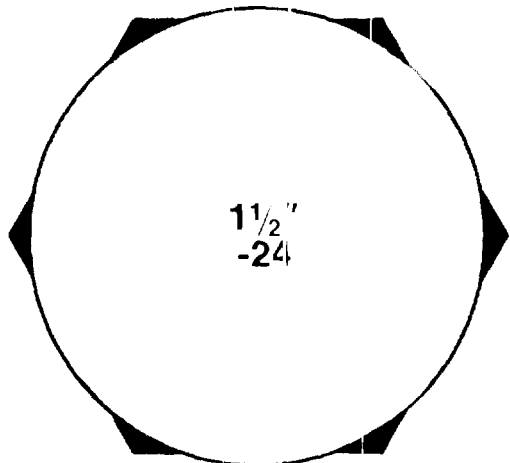
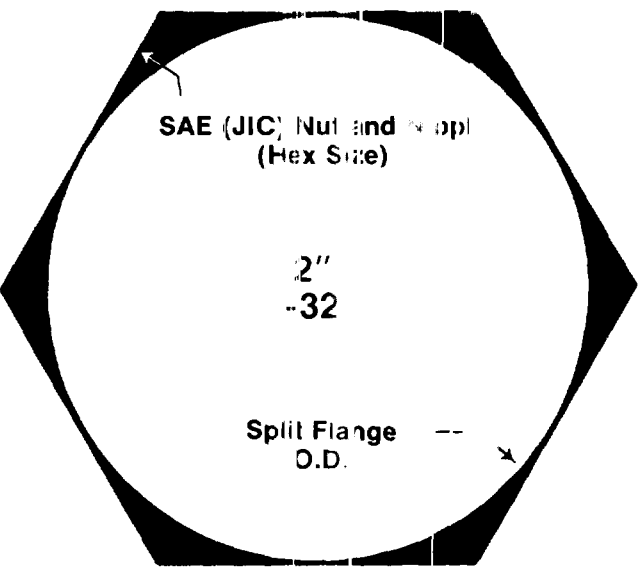
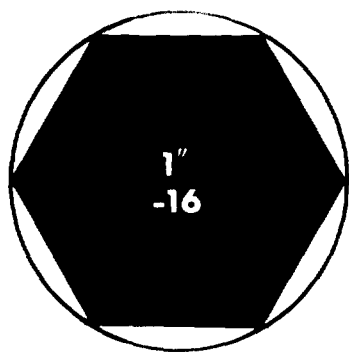
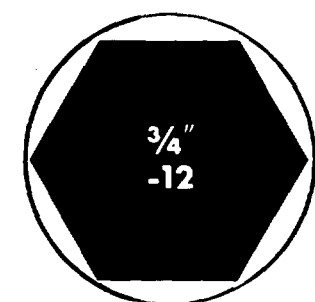
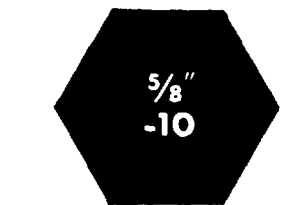
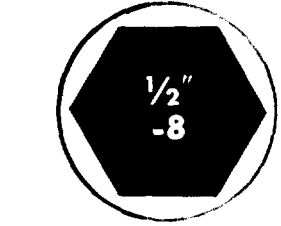
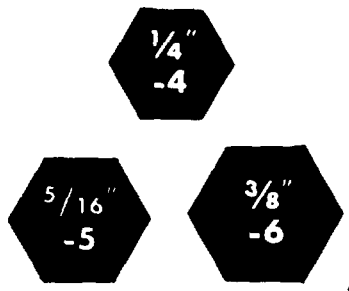
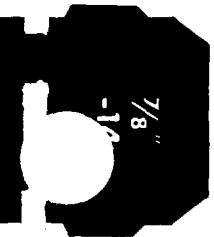
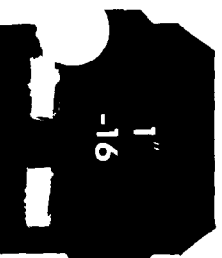
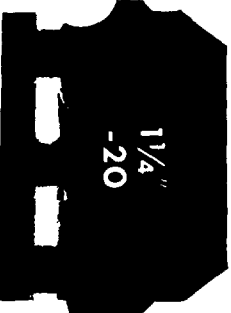
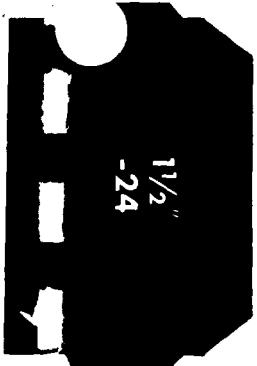
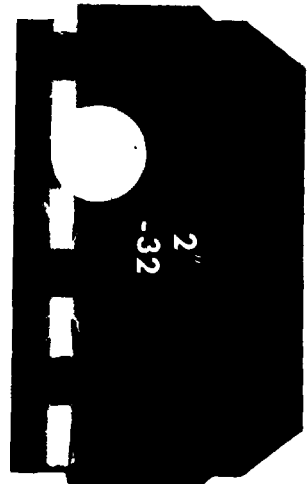
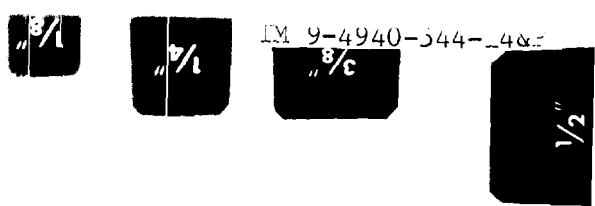
T-1BT90-6X	—	-6
T-1BT90-8X	—	-8



Individual pushers are used for each fitting style and size, and also for brass and stainless steel fittings.



45°
37° Flare
Nose Cones



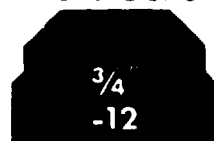
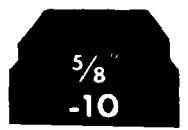
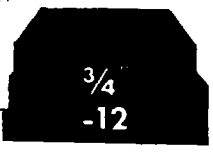
SAE (JIC) 37° Flare Nose Cone Sizes

Male Pipe Thread Sizes

End Fitting Size Chart

SAE (JIC) 37° Flare Nose Cone Sizes

SAE 45° Flare Nose Cone Sizes



By Order of the Secretary of the Army:

Official:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

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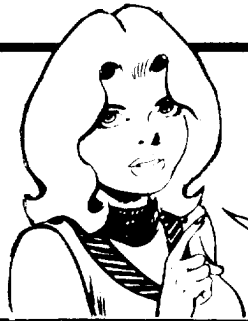
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INSTRUCTIONS FOR REQUISITIONING PARTS

NOT IDENTIFIED BY NSN

When requisitioning parts not identified by National Stock Number, it is mandatory that the following information be furnished the supply officer.

- 1 - Manufacturer's Federal Supply Code Number - 87373
- 2 - Manufacturer's Part Number exactly as listed herein.
- 3 - Nomenclature exactly as listed herein, including dimensions, if necessary.
- 4 - Manufacturer's Model Number - SEHARK
- 5 - Manufacturer's Serial Number (End Item).
- 6 - Any other information such as Type, Frame Number, and Electrical Characteristics, if applicable.
- 7 - If DD Form 1348 is used, fill in all blocks except 4, 5, 6, and Remarks field in accordance with AR 725-50.

Complete Form as Follows:

(a) In blocks 4, 5, 6, list manufacturer's Federal Supply Code Number - 87373 followed by a colon and manufacturer's Part Number for the repair part.

(b) Complete Remarks field as follows:

Noun: (nomenclature or repair part)
For: NSN: 4940-01-080-4213
Manufacturer: Parker Hannifin Corporation
Hose Products Division 30240 Lakeland Boulevard
Model: SEHARK Wickliffe, OH 44092
Serial: (of end item)

Any other pertinent information such as Frame Number, Type, Dimensions, etc.

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
 1 Kilometer = 1000 Meters = 0.621 Miles

SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
 1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
 1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
 1 Kilogram = 1000 Grams = 2.2 Lb
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

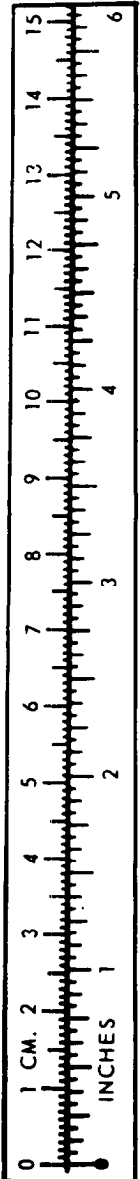
TEMPERATURE

$5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212^o Fahrenheit is equivalent to 100^o Celsius
 90^o Fahrenheit is equivalent to 32.2^o Celsius
 32^o Fahrenheit is equivalent to 0^o Celsius
 $9/5 C^{\circ} + 32 = F^{\circ}$

APPROXIMATE CONVERSION FACTORS

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

<u>TO CHANGE</u>	<u>TO</u>	<u>MULTIPLY BY</u>
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



TM 9-4940-544-14&P, REPAIR KIT HOSE ASSEMBLY, (NSN 4940-01-080-4213)