

TECHNICAL MANUAL

OPERATION, MAINTENANCE AND INSPECTION

INSTRUCTIONS WITH PARTS BREAKDOWN

JACK, HYDRAULIC, TRIPOD 3 TON

PART NO. 8587

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REGENT JACK
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IN DIRECT AND GENERAL SUPPORT MAINTENANCE REQUIREMENTS FOR ALL FIXED
WING AND ROTOR WING AIRCRAFT.**

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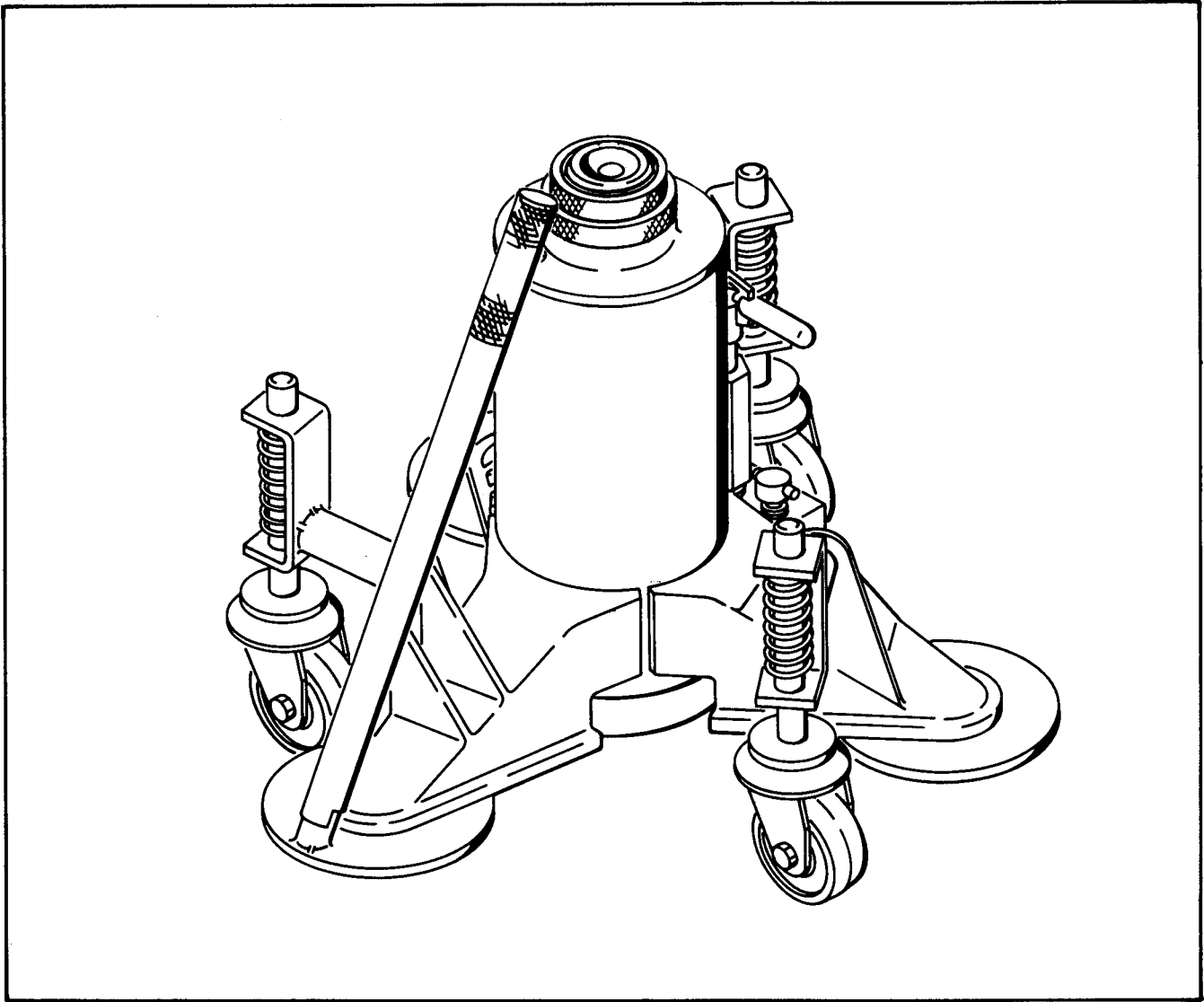


Figure 1-1. Typical View

SECTION I

INTRODUCTION AND DESCRIPTION

1-1. GENERAL. (See figure 1-1.)

1-2. This publication is issued as the basic manual of operation, maintenance and inspection instructions with parts breakdown for 3 Ton Hydraulic Tripod Jack, Part No. 8587, manufactured by Regent Jack Manufacturing Co. , a Division of Aircraft Mechanics, Inc. , Downey, California 90241.

1-3. PURPOSE AND SCOPE. (Refer to table 1-1.)

1-4. Part No. 8587 jack is intended for aircraft ground load lift application. The jack is designed for vertical lifting of loads up to 3 tons (6000 pounds). The jack will not lift loads exceeding the maximum

allowable 10% excess load of 3.3 tons (6600 pounds) because at that load the hydraulic operating fluid is by-passed within the jack pump by an automatic safety valve.

1-5. DESCRIPTION. (See figures 1-1 and 3-1.)

1-6. The jack is a portable, self-contained unit with the hydraulic assembly centrally positioned within a wheeled tripod. The hydraulic assembly consists of two rams encased within a cylinder which is mounted on the jack base. A steel shell encloses the rams and cylinder to form the hydraulic fluid reservoir. A single-speed, manually-operated pump is mounted on the jack base.

Table 1-1. Table of Specifications

Use	Vertical Load Lift
Rated Load Capacity	6000 lb
Maximum Allowable Load.	6600 lb
Required Pump Handle Force (at rated load).	75 lb (approx)
Operating Fluid Medium	Hydraulic fluid, Specification MIL-H-5606
Hydraulic System Fluid Capacity	0.7 gal
Pump Handle Length	18 in.
Hydraulic Lift (rams extended)	23 in.
Height Over all (under load):	
Collapsed	16 in.
Fully Extended	39 in.
Base Leg Radius (cylinder to foot pad c to c).	9 in.
Base Clearance Radius (cylinder center to footpad OD).	12 in.
Weight (with fluid)	130 lb (approx)

SECTION II

PREPARATION FOR USE

2-1. GENERAL.

2-2. Prior to use of the equipment, read all instructions carefully; and prepare the jack for use as outlined in paragraphs 2-3 through 2-7. Then operate jack as outlined in Section III.

2-3. PRE-USE INSPECTIONS.

WARNING

Damaged, defective or suspected parts must be repaired or replaced as outlined in Section IV before attempting to operate the equipment; latently defective parts or weak structural points may cause sudden jack failure and/or loss of lift load with attendant danger of injury to personnel in vicinity.

2-4. LIFT STRUCTURE AND MECHANICAL SUPPORT. Prior to jack use, visually inspect and verify security and undamaged condition of jack leg footpads; cylinder head, base and leg structure; footpad, base, and outer cylinder weld joints; and ram locknuts. Refer to T. O. 35 A2- 1-1 for additional pre -use inspection requirements and repair procedures.

2-5. HYDRAULIC SYSTEM. Conduct the following hydraulic pre-use inspections:

CAUTION

Filler plug air vent must be open to prevent reservoir air-lock and jack malfunction.

a. Remove filler plug and examine air vent passage for blockage. If necessary, thoroughly clean filler plug and air vent screw, then verify clear and open condition of air vent passage.

NOTE

Hydraulic reservoir of a newly-issued jack may be dry; hydraulic system fluid level shall be verified (refer to paragraph 2-7, step c) prior to pressurization.

b. After initial pump actuation (refer to Section III) and prior to load lift use of the jack, check the following locations for evidence of hydraulic fluid pressure leakage; there shall be no fluid leakage at any point:

1. Pump body base and piston gland.
2. Pump block-to-jack base interface.

3. Pump release valve.

4. Cylinder head and ram interfaces.

2-6. COMPONENT LUBRICATION AND FLUID FILL.

CAUTION

Rapid wear and probable component breakdown will result if equipment is operated with insufficient lubrication. Do not attempt to operate jack until lubrication points and hydraulic reservoir have been checked and/or serviced.

NOTE

Pre-use lubrication does not eliminate requirement for the next scheduled, periodic lubrication (refer to table 4-1).

2-7. Check and service jack component lubrication and hydraulic fluid reservoir as follows:

a. Prior to each use, visually examine lubrication points indicated in table 4-1 for evidence of lubricant loss or dry-out; lubrication must be adequate at all points. Where necessary, service points requiring attention in accordance with lubrication requirements of table 4-1.

b. Prior to use of a jack which has been stored, or exposed to environmental condition of extreme low humidity and high dust level, elevated temperature or high rainfall, thoroughly clean lubricated exterior surfaces, and service lubrication points in accordance with lubrication requirements of table 4-1.

c. With jack ram locknuts loosened to top of respective ram threads, open pump release valve approximately one-half turn and manually collapse rams until ram locknuts are fully bottomed. Then verify system hydraulic fluid level as follows:

1. Remove filler plug and inspect cylinder reservoir fluid level to ascertain that operating fluid is within one-half inch of bottom of filler plug hole in cylinder head.

2. If fluid level is low, add sufficient hydraulic operating fluid, Specification MIL-H- 5606, to top-off fluid reservoir.

3. Re-install filler plug.

4. With pump release valve open, operate pump handle for ten to twenty pressure (downward) strokes to bleed out and expel trapped air. Then fully close release valve.

5. After filling a dry reservoir, pressurize and cycle jack to full ram extension then back to fully collapsed condition (refer to Section III); and again check reservoir, adding hydraulic fluid, if necessary, to fill reservoir to required level.

SECTION III OPERATION

3-1. OPERATING PRINCIPLES. (See figure 3-1.)

3-2. A valve assembly (12, figure 5-2) is located beneath pump body (10). The valve assembly contains a gravity check valve, a spring-loaded check valve and a safety by-pass valve. On the "up" stroke the pump piston (7) draws hydraulic fluid from the integral fluid reservoir; on the "down" stroke it forces fluid under pressure through the spring-loaded check valve to the jack cylinder (18, figure 5-1) and rams (9, 15). This fluid pressure is retained by the spring-loaded check valve. Pressure may be released and fluid returned to the reservoir by opening the pump release valve (23, figure 5-2). The safety by-pass valve is operative when jack pump is operated with load to the rams in excess of the maximum allowable load of 3.3 tons (10% greater than 3-ton rated load).

3-3. LIFTING PROCEDURE.

3-4. Proceed as follows to use jack for lifting of vertical loads:

a. Fully close pump release valve.

b. Make certain that leg footpads will rest on a firm, level foundation. If necessary, place flat steel plate under jack to provide secure footing.

WARNING

Do not attempt to lift loads exceeding 6000 pounds with this jack; overloading may result in failure of jack structure and/or load loss hazard to personnel in vicinity of lift site.

c. Position jack directly beneath load lift point. Then operate pump handle to lift jack rams and securely contact and seat second stage ram lift cup under load lift point.

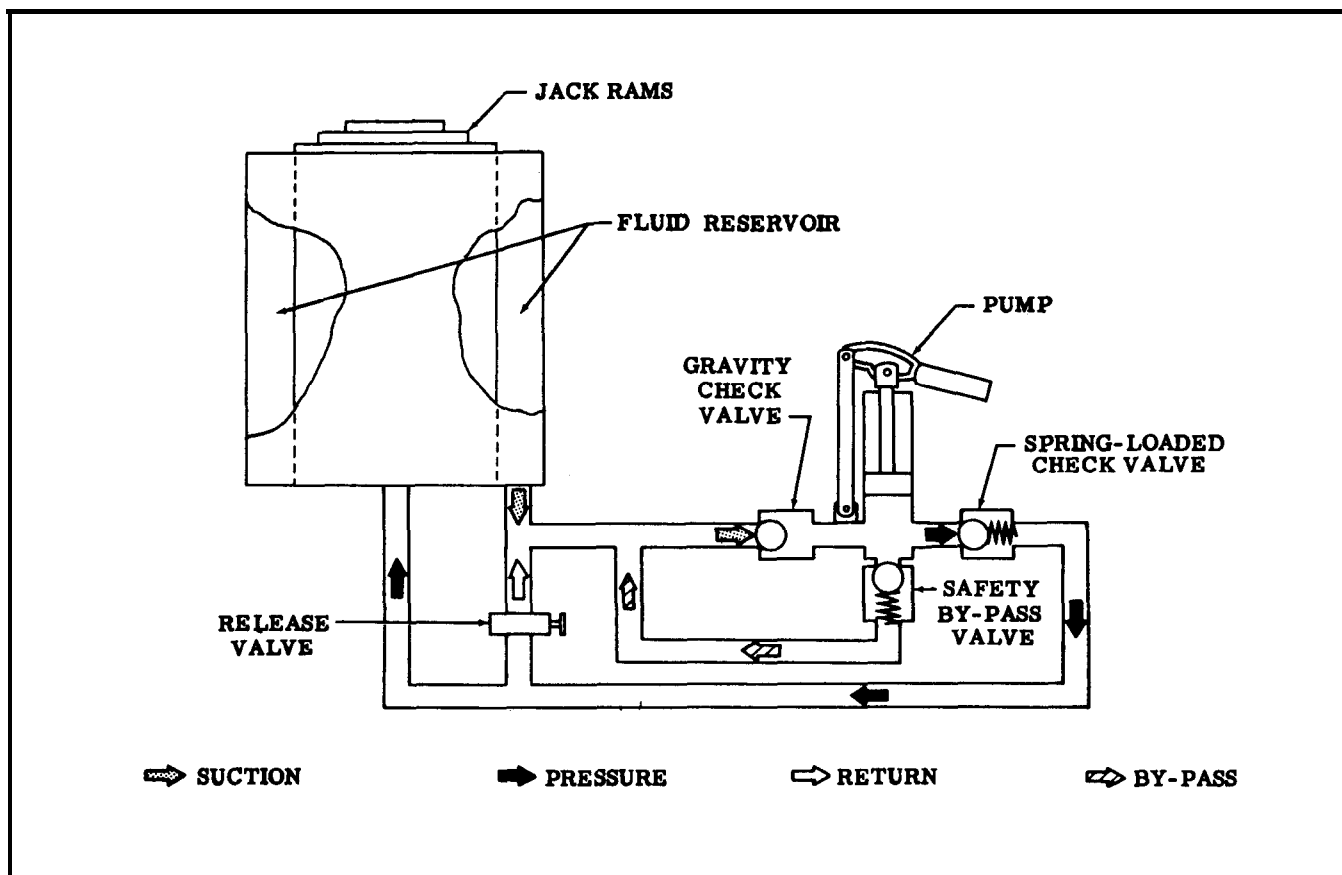


Figure 3-1. Schematic Operation Diagram

NOTE

Properly functioning pump by-pass valve will automatically operate at internally-stopped maximum ram extension or under ram overload; pump handle will "drop" or "go soft" and lifting will stop when by-pass valve is operative. If jack lifting stops before rams are fully extended, an overload is indicated, and pump by-pass valve is relieving fluid pressure; in this event, a jack with greater capacity must be used to lift the load.

d. After jack is firmly positioned under load, operate pump handle using long, smooth strokes until jack has lifted load. If elevation of load is to be maintained for an extended period of time, mechanically lock rams in position to ensure against settling by turning down ram locknuts until they contact respective first stage ram and cylinder head support surfaces.

3 - 5. LOWERING PROCEDURE.

3 - 6. Proceed as follows to lower the jack under load.

a. If ram locknuts were used to lock rams in extended positions (refer to paragraph 3-4, step d), operate jack pump until locknuts are free to turn. Then fully unscrew each locknut to uppermost point on its respective ram, top of locknuts flush with top ram surfaces.



Rate of load descent is proportionate to degree of release valve opening; do not loosen release valve more than two full turns.

b. Slowly open release valve until jack begins to lower under load. With release valve open, rams will lower under load until load supports itself. When load is self-supported, clear ram lift cup from load point and withdraw jack from load; and manually collapse rams.

c. Fully close and tighten release valve.

d. If jack is to be stored or out of service for an extended period, close filler plug air vent.

SECTION IV MAINTENANCE INSTRUCTIONS

4-1. GENERAL.

4-2. Maintenance of Part No. 8587 jack consists of exterior cleaning, when required, periodic preventative lubrication and maintenance inspection (refer to paragraphs 4-3 through 4-8); troubleshooting (refer to paragraph 4-10); and, when required, (corrective maintenance) disassembly, detail cleaning, and inspection, repair and/or replacement of damaged or malfunctioning components, and assembly and test of the jack (refer to paragraphs 4-11 through 4-32).

4-3. PERIODIC CLEANING.

4-4. No specific cleaning schedule is required. However, immediately prior to each scheduled lubrication and inspection servicing (refer to tables 4-1 and 4-2), and whenever accumulation of foreign material, dust, grit and/or gummy deposits are evident, clean applicable surfaces as follows (refer to T.O. 35-1-12 for cleaning):

WARNING

Use volatile solvents only in a well-ventilated area, removed from vicinity of open flame or elevated temperature. Avoid prolonged or repeated contact with skin and inhalation of toxic solvent vapors. Do not direct compressed air against the skin, and do not smoke in presence of solvent vapors. Volatile solvents constitute a potential danger to life and health.

CAUTION

Cleaning agents may cause chemical deterioration of composition, rubber, or plastic materials; use solvents, when required, on metallic surfaces only.

Exercise extreme care to avoid introduction of solvents, cleaning agents, or other diluents into hydraulic system and lubricated areas; dilution of hydraulic fluid medium and/or lubricants will cause eventual rapid wear or component damage.

NOTE

Painted areas where finish has peeled or chipped, should be repainted in accordance with T.O. 35-1-3, paragraph 2-7. FED STD 595 enamel yellow color 13538, Federal Specification TT-E-489.

a. Wash exterior painted surfaces of jack legs, outer cylinder, head, base, and footpads, and wheel treads of leg casters with a mild detergent solution; and rinse thoroughly with clear, soft water. Dry all surfaces with clean, lint-free cloth or an air jet nozzle and compressed air at approximately 40 psig pressure.

b. Carefully wipe and clean all exterior, accessible metallic surfaces of second stage ram lift cup, ram locknuts, and pump assembly with clean, lint-free cloth lightly moistened with dry cleaning solvent, Federal Specification P-D-680.

NOTE

All removed, cleaned, inspected or new replacement internal hydraulic and pump details shall be coated with hydraulic fluid prior to re-installation of these parts (refer to paragraph 4-22).

c. Clean any removed, internal hydraulic and pump details by washing these parts with dry cleaning solvent, Federal Specification P-D-680; and dry parts thoroughly with clean, lint-free cloth.

d. Wipe installed, extended ram OD thread surfaces with a clean, lint-free cloth dampened with lubricating oil, Specification MIL-L-7870, to clear foreign deposits from these areas; and wipe away excessive oil residue with clean, lint-free cloth.

e. Service lubrication points on the assembled jack in accordance with lubrication requirements of table 4-1.

4-5. PERIODIC MAINTENANCE LUBRICATION.

4-6. Service jack lubrication points as follows:

CAUTION

Surplus, external lubricant residue must be cleared to prevent damaging dust and grit accumulation on lubricant-wet surfaces.

NOTE

Internal details of pump assembly and hydraulic lift (rams and cylinder) are lubricated by hydraulic system fluid medium. No additional service lubrication will be required at these interior surfaces.

a. Conduct scheduled, periodic jack component lubrication in accordance with requirements of table 4-1.

Table 4-1. Periodic Maintenance Lubrication Service Schedule

Lubrication/Service Site	Service Interval				Lubricant	Procedure
	Daily	1 Wk	1 Mo	3 Mo		
First and Second Stage Ram Exterior OD			x		Oil; Spec MIL-L-7870	Apply light film with brush.
Pump Rocker Arm and Link Pins		x			Oil; Spec MIL-L-7870	Apply with oil can.
Leg Caster Horn (swivel) Bearings			x		Grease; Spec MIL-G-10924	Hand pack.
Leg Caster Wheel Bearings				x	Grease; Spec MIL-G-10924	Apply with pressure grease gun.
Leg Caster Stem Shaft			x		Oil; Spec MIL-L-7870	Apply light film with brush.
Hydraulic Fluid Reservoir	x				Hydraulic Fluid; Spec MIL-H-5606	Check reservoir fluid level; top-off if low.

Table 4-2. Periodic Maintenance Inspection Schedule

Inspection Site	Service Interval		Test/Inspection	Procedure
	3 Mo	1 Yr		
Footpads	x		Structural defect and crack check	Visual inspection; refer to T.O. 35A2-1-1.
Leg Structure	x			
Cylinder Head	x			
Base Structure	x			
Outer Cylinder/Base/Leg/Footpad Weld Joints	x			
Ram Locknuts	x			
Rams	x			
Jack Assembly	x		Pump safety by-pass and jack operational verification	Test per paragraphs 4-26 through 4-32.
Hydraulic System		x	Purge and flush; system cycle and functional verification	Collapse rams, drain fluid reservoir and pump; flush and re-fill with Specification MIL-H-5606 hydraulic fluid operate and extend/collapse cycle jack; top-off fluid reservoir; and test per paragraphs 4-26 through 4-32.

b. Prior to equipment use, conduct pre-use lubrication checks outlined in Section II.

c. In addition to scheduled lubrication (step a) and pre-use lubrication checks (step b), lubrication points listed in table 4-1 shall be serviced whenever respective locations appear dry, show evidence of lubricant run-out, penetration, or dilution, or otherwise indicate a requirement for lubrication servicing.

4-7. PERIODIC MAINTENANCE INSPECTION.

4-8. Inspect jack components as follows:

a. Conduct scheduled, periodic jack component inspection in accordance with requirements of table 4-2.

b. Prior to equipment use, conduct pre-use inspections outlined in Section II.

4-9. TROUBLESHOOTING.

4-10. When malfunction occurs during operation or test of the jack, proceed as follows to locate and correct the trouble:

a. Refer to troubleshooting information given in table 4-3 for probable trouble causes and recommended remedies.

b. Visually inspect site of malfunction; carefully examine for evidence of mechanical or hydraulic system failure (damaged or jammed details, fluid leakage, etc.).

c. Where hydraulic malfunction is indicated, trace hydraulic flow circuitry (see figure 3-1) to isolate leakage and/or failure source.

d. Using results of troubleshooting and inspection, determine appropriate remedial action which must be taken to correct the malfunction.

WARNING

Any action resulting in rotation or adjustment change of safety by-pass valve adjustment setscrew (13, figure 5-2) or replacement of the setscrew or valve assembly (12) will mandate performance of assembled jack by-pass valve test/adjustment (refer to paragraph 4-28). An improperly high-set by-pass valve will permit jack overload and excessive internal pressure build-up with danger of lift or load collapse and extreme hazard to personnel in vicinity; a low-set by-pass valve will result in failure to lift rated jack load.

e. Perform required corrective action; replace defective details (refer to paragraphs 4-11 through 4-25).

f. Conduct tests outlined in paragraphs 4-26 through 4-32 to ascertain that trouble has been corrected. If necessary, repeat troubleshooting, inspection, corrective action, and test procedures until jack functions satisfactorily.

4-11. CORRECTIVE MAINTENANCE.

4-12. The following instructions outline corrective maintenance/repair procedures for Part No. 8587 jack.

4-13. Whenever possible, maintenance disassembly shall be limited to the extent required for performance of inspection, removal, and replacement of defective or suspected details or assemblies (refer to maintenance and detail inspections and troubleshooting (paragraphs 4-8, 4-19, and 4-10 and to tables 4-2 through 4-7)), and to removal of parts which must be detached to obtain access to areas requiring attention.

4-14. DISASSEMBLY. (See figures 5-1 and 5-2.) The jack has been illustrated in two exploded views for clarity. Figure 5-1 shows the jack its component parts and hydraulic lift (cylinder and ram details). The pump assembly and its details are shown in figure 5-2.

4-15. Prior to initiating disassembly, remove air vent (filler plug) (5, figure 5-1), oil screen plug (26, figure 5-2), release valve lock screw (22) and release valve (23), and thoroughly drain all fluid from the jack into a drain pan. Then proceed to disassemble jack as outlined in paragraphs 4-16 and 4-17.

WARNING

Assembled weight of Part No. 8587 jack is approximately 130 pounds. The jack shall be handled with a minimum of 2 men and/or shop hoist or crane shall be used to prevent possible injury to personnel during jack structure lifting operations.

4-16. JACK COMPONENT AND HYDRAULIC LIFT DISASSEMBLY. (See figure 5-1.) Remove jack components and hydraulic lift details in the same sequence as the index numbers assigned to the exploded-view illustration, noting the following qualifications:

a. Refer to paragraph 4-17 for disassembly data on pump assembly (2).

CAUTION

Handle hydraulic lift details (8 through 18) with care to avoid damage to critical, precision-machined ram piston, bushing, cylinder and head surfaces.

Jack cylinder head (12) with rams (9, 15), and cylinder (18) shall be rotated during removal from base and reservoir (23); and mutual axial alignment of these parts must be maintained throughout removal operations, to prevent jamming and damaging rams, head, cylinder or base.

Table 4-3. Troubleshooting

Trouble	Probable Cause	Remedy
Rams fail to lift when pump is operated; or jack fails to lift rated load	Securely tighten release valve. .	
	Fill with proper fluid (refer to table 1-1).	
	Obstructed fluid suction passage.	Drain and disassemble pump assembly (see figure 5-2): blow passages clear with compressed air. Reassemble, flush and fill with clean fluid.
	By-pass valve improperly adjusted.	Adjust by-pass valve as outlined in paragraph 4-28.
Rams will not fully elevate	Low fluid level.	Fill with proper fluid (refer to table 1-1).
	Leaking discharge valve.	Replace valve assembly (12, figure 5-2) and adjust by-pass valve as outlined in paragraph 4-28.
Rams will not support load	Oil leaks at rams (9, 15, figure 5-1).	Remove rams and inspect rams and mating bearing surfaces for damage, grooving and uneven wear. Replace defective parts; replace packings (10, 13, 14, 16, 19) and retainers (backup rings) (11, 17); and test assembled jack as outlined in paragraphs 4-26 through 4-32.
	Leaking discharge valve.	Replace valve assembly (12, figure 5-2) and adjust by-pass valve as outlined in paragraph 4-28.
	Leaking release valve ball (25, figure 5-2) or ball seat in pump block (29).	Remove ball and replace if damaged. Inspect pump block ball seat and reseal if damaged (refer to paragraph 4-20).
Rams raise and fall with each pump stroke	Incomplete closure of pump release valve (23, figure 5-2).	Securely tighten release valve.
	Leaking discharge valve.	Replace valve assembly (12, figure 5-2) and adjust by-pass valve as outlined in paragraph 4-28.
	Leaking release valve ball (25, figure 5-2) or ball seat in pump block (29).	Remove ball and replace if damaged. Inspect pump block ball seat and reseal if damaged (refer to paragraph 4-20).
Pump inoperative or difficult to operate	Vacuum in reservoir due to clogged filler plug air vent (5, figure 5-1).	Remove filler plug and thoroughly clean per paragraph 4-4, step c.
Pump functions to lift rams, then fluid pressure fails to by-pass at maximum ram extension or with overload applied	By-pass valve improperly adjusted.	Adjust by-pass valve as outlined in paragraph 4-28.
	Defective by-pass valve spring (14, figure 5-2) or ball (15).	Replace valve assembly (12) and adjust by-pass valve as outlined in paragraph 4-28.
Rams will not lower	Excessively worn, damaged rams (9, 15, figure 5-1).	Relieve load with another jack. Remove rams and inspect rams and mating bearing surfaces. Replace defective parts; replace packings (10, 13, 14, 16, 19) and retainers (backup rings) (11, 17); and test assembled jack as outlined in paragraphs 4-26 through 4-32.

NOTE

Cylinder (18) may remain with base and reservoir (23) when head and ram details (6 through 17) are withdrawn.

b. After removing air vent (filler plug) (5), partially withdraw and extend rams (9, 15) sufficiently to provide secure hand-hold on ram OD thread surfaces. Then unscrew jack cylinder head (12) from outer reservoir tube of base and reservoir (23), using a strap wrench, or equivalent, at cylinder head ram boss and/or flange OD; carefully withdraw head, ram and cylinder details (6 through 18) as a unit, directly upward from base and reservoir; and rest head, ram and cylinder details on a clean work surface.

c. Unscrew and remove ram locknuts (6, 7). Then telescope rams (9, 15) to inside-out positions; remove each ram from underside of detached jack cylinder head (12); and unscrew bushing (8) from first stage ram (15).

d. If cylinder (18) was removed with, and remains in place in jack cylinder head (12), manually rotate and withdraw cylinder concentrically from mating head underside bore; if cylinder remained in place within base and reservoir (23), rotate and lift cylinder directly upward from mating base-end bore.

e. Prior to removing pins (20), compress springs (21), using standard caliper spring compressors, or equivalent, until spring load on pins is relieved. Remove the pins, then remove caster assemblies (22) and withdraw springs from spring brackets on caster outriggers of base and reservoir (23).

4-17. PUMP DISASSEMBLY. (See figure 5-2.) Disassemble pump assembly in the same sequence as the index numbers assigned to the exploded-view illustration, noting the following:

CAUTION

Handle pump details with care to avoid damaging critical, precision-machined piston, pump body cylinder, and valve surfaces.

a. After removing pump body (10), screw a 1/4 in. -20 cap screw or thread stock at least 1-1/2 inch long into threaded hole in valve body (19), and lift assembled valve assembly (12) from bump block (29).

WARNING

Rotation or adjustment change of safety by-pass valve adjustment setscrew (13) or replacement of the setscrew or pump valve assembly (12) will mandate performance of by-pass valve test/adjustment after reassembly of the jack (refer to paragraph 4-28). An improperly high-set by-pass valve will permit jack overload and excessive internal pressure build-up with danger of lift or load collapse and extreme hazard to personnel in vicinity; a low-set by-pass valve will result in failure to lift rated jack load.

NOTE

Disassembled details (13 through 19) of valve assembly (12) shall be kept separately in cellophane or plastic containers. Each part shall be tagged or otherwise identified with relative assembled position, to facilitate proper parts installation during reassembly.

Damage to any valve assembly detail will normally require replacement of valve assembly as an assembled unit.

b. Carefully note and record exact thread and hex socket position of setscrew (13) relative to valve body (19) for reference during reassembly.

4-18. DETAIL CLEANING. Clean disassembled jack details in accordance with cleaning instructions given in paragraph 4-4, steps a through c.

4-19. DETAIL INSPECTION. Inspect all parts for damage, distortion, and corrosion; and conduct detail inspection as outlined in tables 4-4 through 4-7; refer to T.O. 35 A2-1-1.

NOTE

Except for permissible repair procedure listed below, detail parts repair is not considered reliable or economical; all non-repairable parts which do not meet inspection requirements, and repairable items which can not be effectively reworked, shall be replaced (refer to paragraph 4-21).

4-20. REPAIR. The following release valve ball seat repair may be accomplished, when necessitated by release valve fluid leakage or ball seat damage at pump block (29, figure 5-2):

NOTE

Repair of pump valve ball seat damage at valve body (19) is not considered practicable or economical; any damage of valve ball seats will necessitate replacement of valve assembly (12) as a unit.

a. Reface pump block release valve ball seat, using standard valve seat facing tool.

b. Using brass dowel, mallet, and Grade No. 1, 3/8-inch diameter steel ball (25), form a new seat by rapping lightly at seated ball until approximately a 1/64-inch wide rim seat is formed.

NOTE

A new ball (25) shall be installed during reassembly at repaired release valve ball seat.

c. Discard ball used for seating operation.

d. Wash repaired seat with dry cleaning solvent, Federal Specification P-D-680, and dry thoroughly (refer to paragraph 4-4).

Table 4-4. Jack Component and Hydraulic Lift Detail Inspection (See figure 5-1.)

Part	Index No.	Test/Check	Procedure
Pump assembly	2	Detail inspection	Refer to table 4-5.
Locknuts	6,7	Visual	Examine for cracked, gouged, or stripped threads; out-of-round diameters; and for bent or deformed face flats.
Bushing	8	Visual	Examine for grooved or scored ID.
		Excessive wear	Refer to table 4-6.
Rams	9,15	Visual	Examine for grooved or scored shank or thread crest OD; bending; and for cracked, gouged, or stripped threads.
		Excessive wear	Refer to table 4-6.
Head	12	Visual	Examine for cracks; and for grooved, gouged, or out-of-round ID.
Cylinder	18	Visual	Examine for grooved or scored ID.
		Excessive wear	Refer to table 4-6.
Caster springs	21	Visual	Examine for cracks and deformation; and for free length of 4.35 inches.
		Compression rate	Check for compression to 3.75 inch length at 125 ±13 pounds load.
Caster assemblies	22	Visual	Examine for bent stem; and for cracked or gouged tread.
		Wheel and swivel function	Manually spin caster wheel; rotation of wheel shall be smooth and free; with no evidence of hesitation, wobble, or oscillation. Swivel caster horn about stem shaft; there shall be no evidence of rough spots, binding, or cocked (non-axial) swivel about caster centerline.
Base and reservoir	23	Visual	Examine for cracks; out-of-round or deformed holes; and for loose or open base-to-outer cylinder, leg, footpad, or caster outrigger weld joints.

Table 4-5. Pump Assembly Detail Inspection (See figure 5-2.) (Sheet 1 of 2)

Part	Index No.	Test/Check	Procedure
Pump link	4	Visual	Examine for bending and deformation; and for out-of-round holes.
Rocker arm	6	Visual	Examine for out-of-round holes.
Piston	7	Visual	Examine for grooved or scored minor (wear surface) OD.
		Excessive wear	Refer to table 4-7.

Table 4-5. Pump Assembly Detail Inspection (See figure 5-2.) (Sheet 2 of 2)

Part	Index No.	Test/Check	Procedure
Pump body	10	Visual	Examine for grooved or scored ID.
		Excessive wear	Refer to table 4-7.
Spring	14	Visual	Examine for cracks and deformation; and for free length of 3/8 inch,
		Compression rate	Test for compression to 1/4 inch height under 30-pound load.
Balls	15,18,25	Visual	Examine for flat spots; and for scratches, nicks, and grooves.
Spring	17	Visual	Examine for cracks and deformation; and for free length of 1/2 inch.
Valve body	19	Visual	Examine ball seats for scratches, nicks, grooves, and deformation.
Spring	27	Visual	“Examine for cracks and deformation; and for free length of 1-1/2 inch.
Oil screen	28	Visual	Examine for raveled, broken wire mesh; and for deformation, especially at flange end.
Pump block	29	Visual	Examine for out-of-round holes; and for scratched, nicked, grooved or deformed seat for release valve ball (25).

Table 4-6. Hydraulic Lift Detail Wear Limits (See figure 5-1.)

Part Name and Index No.	Dimension Measured	Dimension	Limits (in.) Min
		Max	
Bushing (8)	ID	2.248	-----
Ram (9)	Major OD	-----	2.233
Ram (15)	Major OD	-----	2.988
	Wear surface ID	2.398	-----
Cylinder (18)	Wear surface ID	3.148	-----

Table 4-7. Pump Assembly Wear Limits (See figure 5-2.)

Part Name and Index No.	Dimension Measured	Dimension Limits (in.)	
		Max	Min
Piston (7)	Minor OD	-----	0.680
Pump body (10)	Wear surface ID	0.695	-----

4-21. REPLACEMENT. Except for permissible pump block release valve ball seat repair outlined in paragraph 4-20, failure to meet inspection requirements will mandate parts replacement; all such defective non-repairable details shall be replaced. In addition, the following next-higher assembly replacement requirements shall be observed. If any detail (13 through 19, figure 5-2) of pump valve assembly (12) is damaged, the valve assembly shall be replaced as an assembled unit; by-pass valve test/adjustment must then be performed after reassembly of the jack (refer to paragraph 4-28).

4-22. ASSEMBLY LUBRICATION. Immediately prior to reassembly, lubricate unassembled details as follows:

NOTE

Pre-assembly lubrication will facilitate installation and fit of details and effectively prevent dry-chafing of mating parts during reassembly procedures.

a. Immerse packings (10, 13, 14, 16, 19, figure 5-1; 1, 9, 24, figure 5-2), packing retainers (backup rings) (11, 17, figure 5-1; 8, figure 5-2), and gaskets (11, 21, figure 5-2) in hydraulic fluid, Specification MIL-H-5606.

b. Coat OD of second stage ram (9, figure 5-1), OD and ID of first stage ram (15), ID of cylinder (18), shank (minor OD) of pump piston (7, figure 5-2) and bore of pump body (10) with hydraulic fluid, Specification MIL-H-5606.

c. Using a brush, apply a film of oil, Specification MIL-L-7870, to stem shafts of leg caster assemblies (22, figure 5-1) and pump rocker and link pins (3, 5, figure 5-2).

4-23. ASSEMBLY. Reassemble the jack as outlined in paragraphs 4-24 and 4-25.

4-24. PUMP REASSEMBLY. (See figure 5-2.) Reassemble pump assembly in reverse order of disassembly, noting the following:

a. Carefully adjust setscrew (13) in valve body (19) to exact position recorded during disassembly (refer to paragraph 4-17, step b).

b. Install assembled valve assembly (12) with upper and lower valve gaskets (11) within valve bore of pump block (29). Then position valve assembly so that installed setscrew (13) aligns with threaded hole in pump block for plug (20); maintain setscrew and plug hole alignment with wood dowel inserted through threaded plug hole; and securely screw pump body (10) into place in pump block. Fully tighten pump body prior to removing wood alignment dowel.

W A R N I N G

Assembled weight of Part No. 8587 jack is approximately 130 pounds. The jack shall be handled with a minimum of 2 men and/or shop hoist or crane shall be used to prevent possible injury to personnel during jack structure lifting operations.

4-25. JACK COMPONENT AND HYDRAULIC LIFT REASSEMBLY. (See figure 5-1.) Reassemble jack components and hydraulic lift details in reverse order of disassembly, noting the following qualifications:

a. Compress springs (21), using standard caliper spring compressors, or equivalent, and position compressed springs within spring brackets on caster outriggers of base and reservoir (23). Then insert stem shafts of caster assemblies (22) through brackets and springs and install pins (20) through caster stem pin holes, positioning each pin between lower spring coil and respective lower bracket arm. After installing and securing pins, gradually relieve spring clamping pressure.

CAUTION

Cylinder (18) shall be rotated during installation in base-end bore of base and reservoir (23), rams (9, 15) shall be rotated during mutual assembly and installation in cylinder bore, and cylinder head (12) shall be rotated during fit on rams and cylinder OD; and mutual axial alignment of these parts must be maintained throughout assembly operations, to prevent jamming and damaging rams, head, cylinder, or base.

b. Install packing (19) in base-end cylinder bore groove of base and reservoir (23). Then concentrically align and carefully install cylinder (18) in mating jack base bore, fully bottoming cylinder end in its bore.

c. Install second and first stage ram packings (10, 16) and retainers (backup rings) (11, 17) in piston grooves of respective rams (9, 15); and fully screw bushing (8) into top-end ID threads of first stage ram (15). Then concentrically align, carefully insert and assemble second stage ram (9) through underside (piston-end) bore of first stage ram until first stage ram is fully enclosed, with both ram piston ends mutually flush.

d. Align assembled rams (9, 15) with installed cylinder (18); and carefully install rams in cylinder bore until ram piston ends are fully bottomed in jack base bore end.

e. Install packings (13, 14) in respective under-flange and cylinder boss bore grooves of jack cylinder head (12). Then carefully align and guide head over projecting shank of first stage ram (15) and upper end of cylinder (18), rotating head during assembly to facilitate proper assembled fit of head, ram and cylinder boss bores over mating ram and cylinder diameters. Verify free head rotation and ID fit on mating ram and cylinder diameters; then fully screw head into place in outer reservoir tube of base and reservoir (23).

f. After complete jack reassembly, service jack lubrication points indicated in table 4-1; fill, bleed

and cycle jack hydraulic fluid system as outlined in paragraph 2-7, step c; and conduct by-pass valve adjustment and jack operational tests outlined in paragraphs 4-26 through 4-32.

4-26. ADJUSTMENT AND TEST PROCEDURES.

4-27. TEST SET-UP. Adjustments and tests shall utilize the following load test set-up, or equivalent:

a. Locate jack on a platform-type weighing scale calibrated to at least 6600 pounds, and align jack structure so that total vertical jack load will be transmitted to scale platform.

b. Mount a hydraulic or pneumatic actuating cylinder capable of axial ram load applications up to 3.3 tons and axial cylinder compression up to 23 inches, in stationary, vertical position, centered directly over jack and weighing scale platform, with cylinder ram concentrically aligned with jack lift cup. Connect test cylinder to applicable operating source of controlled hydraulic air pressure with adjustable relief valve.

4-28. SAFETY BY-PASS VALVE TEST AND ADJUSTMENT. Test and adjust safety by-pass valve in pump valve assembly (12, figure 5-2) as follows:

a. Fully close pump release valve (23, figure 5-2).

b. Operate jack pump and verify that jack rams (9, 15, figure 5-1) extend smoothly with pump handle pressure (downward) strokes.

c. Open pump release valve and collapse jack rams; then again fully close release valve.

d. Using test cylinder, apply a 3-ton load to jack. Operate jack pump to lift applied cylinder load until second stage ram (9, figure 5-1) is partially extended. If load fails to lift, adjust low-set by-pass valve as outlined in step f.

W A R N I N G

Continued operation of jack pump with improper, high-side by-pass valve pressure adjustment will cause increasing pressure build-up with full ram extension or excessive loading, with consequent danger of lift collapse and serious injury to personnel in vicinity.

e. Increase applied test cylinder ram load to 3.3 tons; and resume operation of jack pump. At the first pump pressure stroke with the increased load pump handle shall "drop" or "go soft", indicating safety by-pass valve operation and correct valve adjustment. If by-pass fails to operate at first pumping stroke and jack continues to operate, lifting the increased load, immediately stop pumping and adjust valve as outlined in step g.

NOTE

Do not remove jack from load test set-up at this point; jack load test set-up must be maintained throughout tests.

f. Adjust improperly low-set by-pass valve as follows:

1. Remove valve adjusting screw plug (20, figure 5-2).

2. Rotate by-pass valve adjustment setscrew (13) one-half turn clockwise.

3. Re-install valve adjusting screw plug and repeat rated load test (step d); if necessary, repeat clockwise adjustment of setscrew and rated load test until jack will lift 3-ton load.

4. After satisfactory completion of rated load test (step d), accomplish overload by-pass valve function test (step e).

g. Adjust improperly high-set by-pass valve as follows:

1. Remove adjusting screw plug (20, figure 5-2).

2. Rotate by-pass valve adjustment setscrew (13) one-half turn counterclockwise.

3. Re-install valve adjusting screw plug and repeat overload by-pass valve function test (step e); if necessary, repeat counterclockwise adjustment of setscrew and overload by-pass function test until by-pass valve is operative at the increased jack load at the initial pump pressure stroke.

4. Repeat steps d and e to assure proper adjustment.

NOTE

Pump release valve must be fully closed after each completion of the following operational tests.

4-29. FUNCTIONAL TEST. Operate jack pump with no load applied to jack until rams have extended to full 23 inch lift; action of pump handle shall feel solid at each pressure stroke. Open pump release valve and collapse rams with 50-pound load; rams shall collapse fully under this load.

4-30. EXTERNAL LEAKAGE TEST. Operate jack pump until lift cup contacts test cylinder ram; apply 3-ton test load to jack; and operate jack pump until rams have lifted to full extension of 23 inches. Then visually inspect jack exterior for hydraulic fluid leakage at jack rams, pump piston and body, release valve, and pump block-to-jack base interface; there shall be no evidence of fluid leakage at any point.

4-31. PUMP OPERATING FORCE TEST. Apply 3-ton test cylinder load to jack. Then operate jack pump and measure operating force required at

handgrip end of pump handle; at rated 3-ton jack load, pump handle operating force during pump pressure strokes shall be between 75 and 80 pounds.

4-32. **SETTLING TEST.** Test jack for settling as follows, noting that settling rate shall not exceed 0.020 inch per hour:

a. Apply 3-ton load to jack and operate jack pump until load has been partially lifted. At this lift

point, carefully measure and record height of jack lift cup.

b. After a 15-minute period, measure and record height of lift cup, and again in 30 minutes; height of jack lift cup shall not decrease more than 0.005 inch during each 15-minute test period or a total of 0.010 inch in 30 minutes.

c. After test completion, open pump release valve and collapse jack rams.

SECTION V PARTS BREAKDOWN

5-1. GENERAL.

5-2. The Parts Breakdown lists and illustrates the assemblies and detail parts of the Part No. 8587 jack.

5-3. Illustrations of the jack accompany the parts list. The various detail parts and assemblies are keyed by index numbers listed in the parts list.

5-4. The FIG. & INDEX NO. column in the parts list contains the index numbers assigned to parts shown on respective illustrations.

5-5. The PART NO. column in the parts list contains the part number of each assembly and detail part of the equipment.

5-6. The DESCRIPTION column in the parts list contains descriptive item names of assemblies and detail parts. Item names are indented to show assembly and detail part relationship.

5-7. The UNITS PER ASSY column in the parts list contains the total quantity of each part and assembly comprising the next higher assembly.

5-8. SOURCE CODE DEFINITIONS.

"P" "P" SERIES - PARTS PROCURED AND UNDER INVENTORY STOCK CONTROL.

1. Code "P" identifies parts which may be requisitioned and installed by any level of maintenance consistent with the activity's authorized scope of maintenance. Code "P" is applied to parts on which usage is anticipated or known. Restricted (emergency) service manufacture of code "P" items is considered practical but may be accomplished only after confirmation of nonavailability from supply sources.

2. Code "PD" identifies parts which may be requisitioned and installed by AF activities authorized depot level maintenance only. Code "P D" is applied to parts on which usage is anticipated or known. Restricted (emergency) service manufacture of code "PD" parts is considered practical but may be accomplished only after confirmation of nonavailability from supply sources.

3. Code "P 1" identifies parts which may be requisitioned and installed by any maintenance level consistent with the activity's authorized scope of maintenance. Code "P1" is applied to parts on which usage is anticipated or known, and which service manufacture is considered impractical.

4. Code "P 1D" identifies parts which may be requisitioned and installed by AF activities authorized

depot level maintenance only. Code "P 1D" is applied to parts on which usage is anticipated or known, and which service manufacture is considered impractical.

5. Code "P2" identifies insurance type parts which can be installed by any activity within their authorized scope of maintenance. This code is applied to parts which have limited usage and are difficult, impractical or uneconomical to manufacture. These items are not subject to periodic replacement or wear-out. Infrequent replacement may result from deterioration or other unexpected occurrences. High reliability, long service life and delayed procurement items are included under this code.

6. Code "P2D" identifies insurance type parts which may be installed by AF activities which are authorized depot level maintenance only. This code is applied to parts as described under code "P2" and to delayed procurement items.

b. "M" SERIES - MANUFACTURE, PARTS NOT PROCURED.

1. Code "M" identifies parts, the manufacture and installation of which are within the capabilities of field maintenance activities and to which all of the following conditions apply:

(a) Procurement is not justified because of low usage or peculiar storage and installation factors. Needs are to be met by local manufacture only as required.

(b) Their manufacture does not require tools, equipment, or skills not normally authorized at field maintenance level.

(c) Does not require test equipment not normally authorized at field maintenance level.

(d) Does not require material not normally available in AF inventory.

2. Code "M1" identifies parts which can be manufactured at activities authorized depot level maintenance facilities and to which all of the following conditions apply:

(a) Procurement is not justified because of low usage or peculiar storage and installation factors. The need of base activities are to be met by requisitioning from the SSM or IM AMA.

(b) Their manufacture is beyond capabilities of field maintenance activities as outlined above.

(c) Their manufacture does not require tools or equipment not normally authorized at all AMAs.

"A" "A" SERIES - ASSEMBLE, ASSEMBLY NOT PROCURED.

1. Code "A" identifies items capable of being assembled at any level of maintenance and is applied to assemblies of two or more parts, the majority of which are purchased and/or service manufactured.

2. Code "A1" identifies assemblies which can be assembled at AF activities authorized depot level maintenance only and is applied to assemblies described under "A" code.

d. "X" SERIES - PARTS CONSIDERED IMPRACTICAL FOR SERVICE MANUFACTURE.

1. Code "X" is applied to main structural members or similar parts, which if required, would suggest extensive repair. The need for a part or parts coded "X" (wing spars, center section structure, etc.) should normally result in a recommendation to retire the article from service.

2. Code "X1" identifies parts applicable at any level of maintenance consistent with the activity's authorized scope of maintenance and for which it is more feasible to obtain the next higher assembly; for example, an integral detail part such as a welded segment inseparable from its assembly; a part machined in a matched set; or a part of any assembly which, if required, would suggest extensive reconditioning of such assembly. In some cases, code "X1" may be used to indicate an integral detail part of an assembly which has no anticipated usage and as an assembly was source-coded "M" or "M1".

3. Code "X1D" identifies parts which are described under the "X1" code but which are applicable to AF activities authorized depot level maintenance only.

4. Code "X2" identifies parts which are applicable to any level of maintenance consistent with the activity's scope of maintenance, for which there is no anticipated usage, and which are impractical for service manufacture. This type of item will not be stocked. Such parts shall be obtained from reclamation or, if not available from this source, requisitioned through normal supply channels together with supporting justification for one time procurement and immediate use. Repeated requests shall justify a change to a code "P1" or "P2", as applicable, if considered economical to procure and store such parts.

5. Code "X2D" identifies parts which are described under the "X2" code but which are applicable to AF activities authorized depot level maintenance only. Repeated requests for such parts shall justify a change to a "P1D" or "P2D" code as applicable, if considered economical and feasible to procure and stock such parts.

e. CODE "U" - PARTS NOT PROCURED, MANUFACTURED, OR STOCKED. Code "U" is applied to installation drawings, diagrams, instruction sheets, field service drawing numbers, and parts not

otherwise of supply significance, including obsolete parts, which cannot be procured or service manufactured.

f. CODE "F" - MINOR OR FIELD PARTS KIT. Code "F" is applied to kits which are available to all maintenance activities authorized to perform base level repair of the end item, including overhaul activities in support of field activities.

1. CODE "KF". Code "KF" is applied to items which are components of an F-Kit.

g. CODE "D". Code "D" is applied to kits which are available only to those activities authorized to perform depot level repair.

1. CODE "KD". Code "KD" is applied to items which are components of a D-Kit.

2. CODE "KB". Code "KB" is applied to items which are components of both an F-Kit and a D-Kit.

h. Items which are source coded "KD", "KF", or "KB", and for which the application of such items is peculiar to repair kits, will not be stocked separately and will not be assigned any additional source codes.

i. Items which are source coded "KD", "KF", or "KB", and for which the application of such items is common to repair kits and to other repair or overhaul applications, will be stocked separately in the appropriate commodity class if followed by the letter "P".

5-9. MAINTENANCE REPAIR CODE DEFINITIONS.

a. CODE "S" - NO REPAIR. Code "S" identifies items which are not repairable and have no reclamation value. When these items fail they will be disposed of at user level as condemned material.

b. CODE "B" - NOT REPAIR; RECONDITION. Code "B" identifies assemblies or parts that will be reconditioned at the user level by adjusting, cleaning, soldering broken connection, etc. If these items cannot be returned to serviceable condition by such means they will be disposed of at user level as condemned material. No repair parts or tools are specially procured for maintenance of these items.

c. CODE "F" - REPAIR AT FIELD LEVEL. Code "F" identifies items which will be repaired by the field level maintenance activities. Normal servicing will be done by organization level maintenance. Selected parts, tools, and technical order data are procured and provided to applicable field level maintenance activities for repair of these items. No SRA is established for these items. If the condition of these items is such that they cannot be returned to serviceable condition by the field level maintenance activity with authorized parts and tools, they will be disposed of as condemned material. If repair of "F" coded items cannot be accomplished due to unavailability of authorized parts, tools, or other capability, the applicable SSM/IM will be so advised with request for disposition instructions. "F" coded critical items,

regardless of condition, will be returned to supply for disposition instructions from the applicable SSM/IM.

d. CODE "D" - LIMITED FIELD REPAIR; DEPOT OVERHAUL. Code "D" identifies items on which a limited degree of repair can be accomplished by field level maintenance activities. Normal servicing will be done at organizational level. SRA is established for overhaul of these items. A range of repair parts, tools, and technical order data consistent with the capability of repair are procured and provided to applicable field maintenance activities. Because of the design characteristics and complexity of repair, the degree of repair which is authorized on these items at the field maintenance level is necessarily determined by the degree of technical skills required and the cost of special tools, special test equipment, spare parts, and the predicted frequency of failure. If these items cannot be returned to serviceable condition with authorized parts and tools they will be returned to supply for shipment to the designated SRA.

e. CODE "DM" - LIMITED FIELD REPAIR; MOBILE DEPOT OVERHAUL. Code "DM" identifies

items to which all conditions of code "D" apply except that repair beyond field capability will be done by the mobile depot activity (MDA). If the MDA cannot repair these items, disposition instructions will be requested from the IM.

f. CODE "L" - DEPOT LEVEL MAINTENANCE ONLY. Code "L" identifies items that will be repaired only at designated SRA. Necessary parts, repair equipment or overhaul capabilities are available at these activities. Required functional checkout and bench check equipment may be provided to applicable organizational and field level maintenance activities for accomplishing external adjustment or calibration and for verifying serviceability of these items. Items found unserviceable will be returned to supply for shipment to the SRA.

g. CODE "LM" - DEPOT LEVEL MAINTENANCE ONLY; MOBILE DEPOT ACTIVITY. Code "LM" identifies items to which all conditions of code "L" apply except that repair will be accomplished by MDA. If the MDA cannot repair these items, disposition instructions will be requested from the IM.

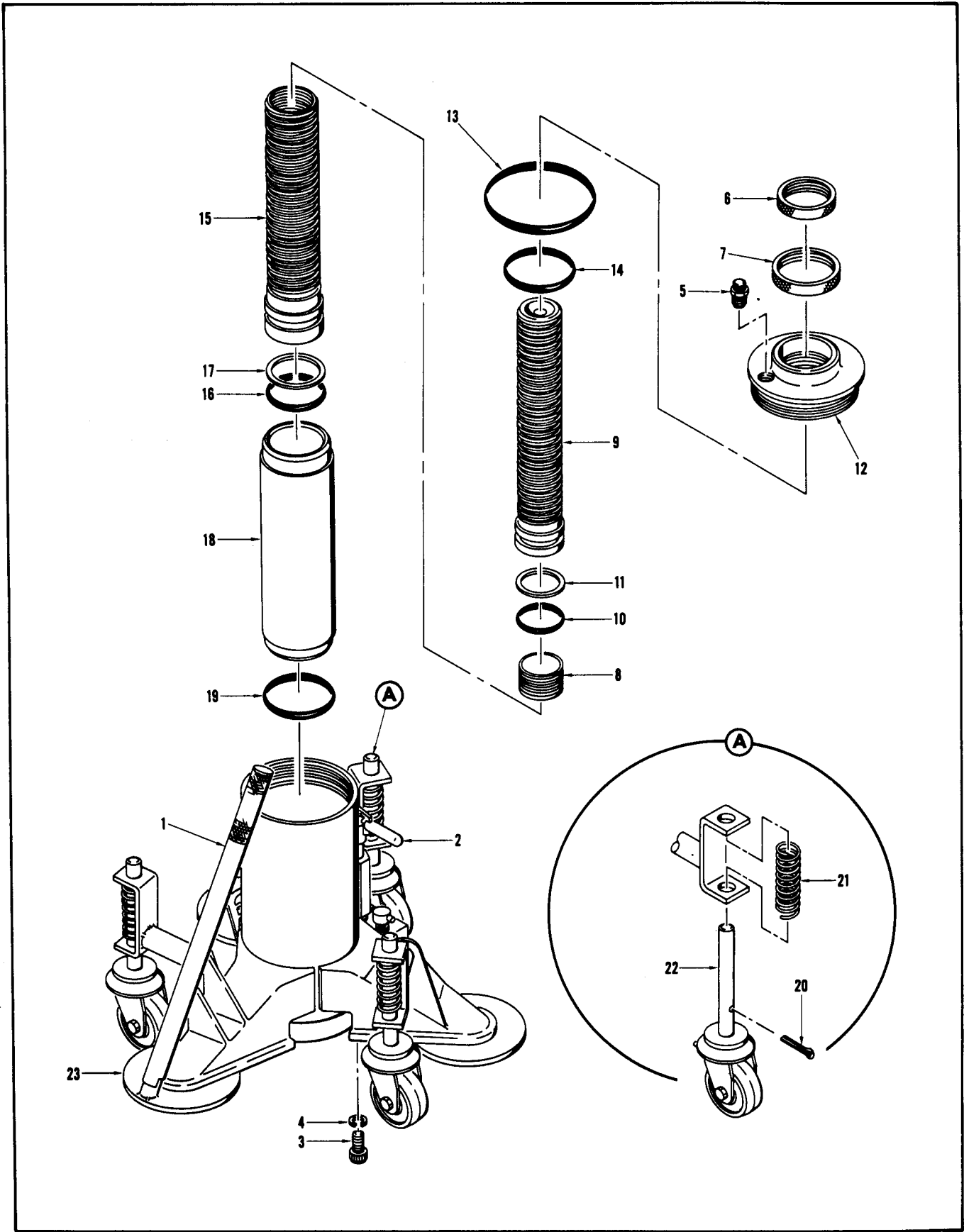


Figure 5-1. 3 Ton Hydraulic Tripod Jack Assembly, Part No. 8587

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY
		1	2	3	4	5	6	7	
5-1-	8587	JACK ASSY, Hydraulic, tripod 3 ton							1
-1	53B22101	. HANDLE, Pump (stowed)							1
-2	915AK	. PUMP ASSY (See figure 5-2 for details) (ATTACHING PARTS)							1
-3	MS16998-95	. SCREW							2
-4	Coml	. WASHER, Lock, spring, high-collar, 1/2 in. ID, cad pl steel . ---*---							2
-5	50B7763	. VENT, Air (filler plug)							1
-6	988-10	. LOCKNUT, Second stage							1
-7	988-9	. LOCKNUT, First stage							1
-8	988-8	. BUSHING							1
-9	988-6	. RAM, Second stage							1
-10	MS28775-328	. PACKING							1
-11	MS35803-227	. RETAINER, Packing							1
-12	8587-4	. HEAD, Jack							1
-13	MS29513-161	. PACKING							1
-14	MS28775-238	. PACKING							1
-15	988-5	. RAM, First stage							1
-16	MS28775-334	. PACKING							1
-17	MS35803-233	. RETAINER, Packing							1
-18	8587-5	. CYLINDER, Jack							1
-19	MS28775-238	. PACKING							1
-20	MS24665-622	. PIN							3
-21	985-54	. SPRING, Caster							3
-22	916-181	. CASTER ASSY							3
-23	8587-1	. BASE AND RESERVOIR							1

FIG. & INDEX NO.	PART NO.	DESCRIPTION							UNITS PER ASSY
		1	2	3	4	5	6	7	
5-2-	915AK	PUMP ASSY (See figure 5-1 for NHA)							Ref
-1	MS28775-012	. PACKING							2
-2	AN380-3-3	. PIN							3
-3	MS20392-4-25	. PIN							2
-4	915-151.42	. LINK, Pump							1
-5	MS20392-4-33	. PIN							1
-6	53B22091	. ARM, Rocker							1
-7	53A22105-74C	. PISTON, Pump							1
-8	53B22036-2	. RING, Backup							1
-9	MS28775-115	. PACKING							1
-10	915-179	. BODY, Pump							1
-11	53A22099	. GASKET, Valve							2
-12	53C22096	. VALVE ASSY							1
-13	*AN565F428H3	. . SETSCREW							1
-14	*53A22094	. . SPRING, By-pass							1
-14A	*916-228	. . RIVET							1
-15	*MS150454	. . BALL							1
-16	*53A22095	. . RETAINER							1
-17	*53A22093	. . SPRING							1
-18	*MS150457	. . BALL							2
-19	*53C22092	. . BODY, Valve							1

*Do not order separately; for replacement, procure NHA.

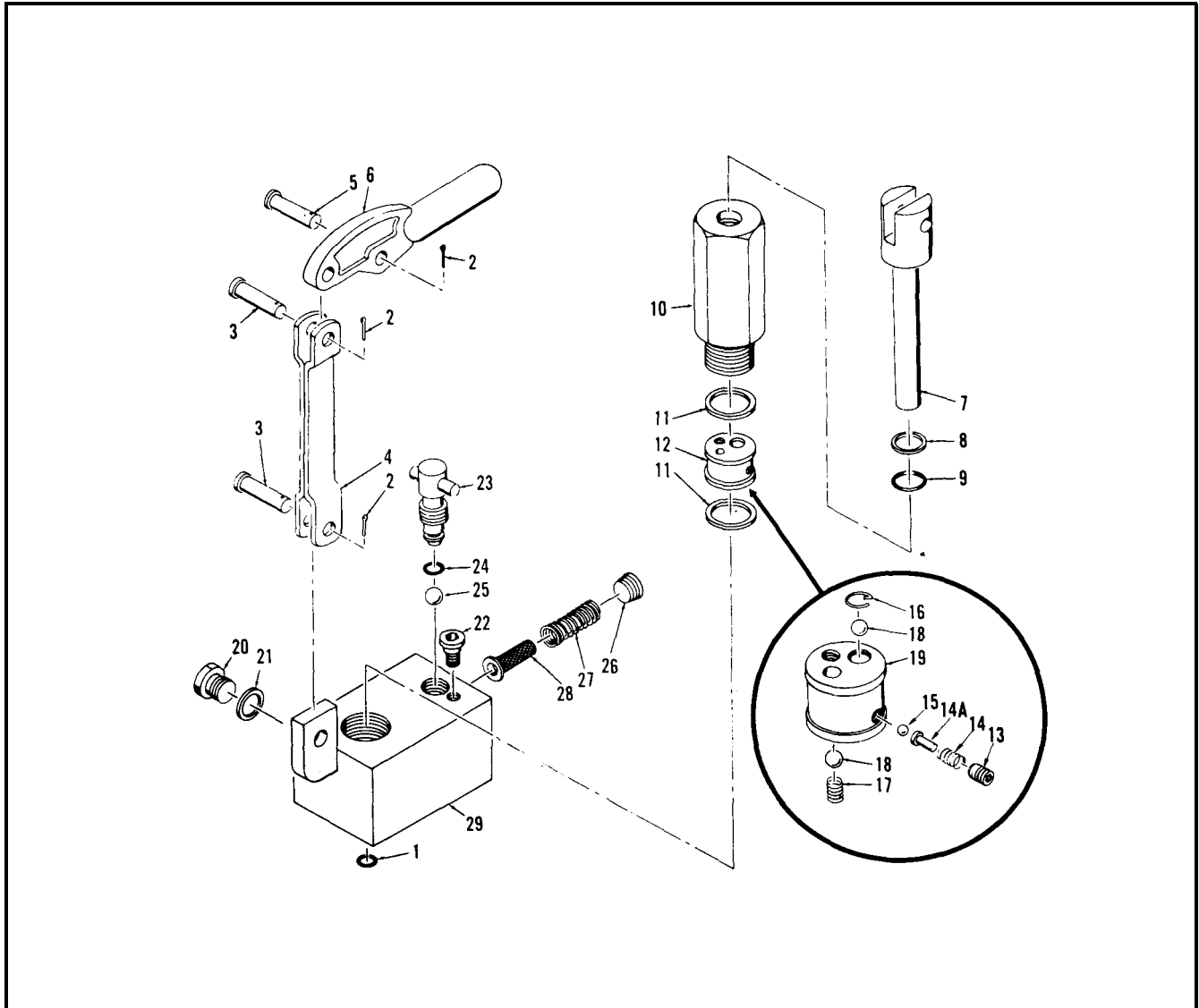


Figure 5-2. Pump Assembly, Part No. 915AK

FIG. & INDEX NO.	PART NO.	1	2	3	4	5	6	7	DESCRIPTION	UNITS PER ASSY
5-2-20	53A22045	.							PLUG, Valve adjusting screw	1
-21	53A22098	.							GASKET	1
-22	53A22043	.							SCREW, Release valve lock	1
-23	53A22157	.							VALVE, Release	1
-24	MS28775-011	.							PACKING	1
-25	Coml	.							BALL, Steel, 3/8 in. dia, Grade No. 1	1
-26	Coml	.							PLUG, Pipe, socket hd, steel, 3/8 in. dry seal thd	1
-27	53A22038	.							SPRING	1
-28	53A22044	.							SCREEN, Oil	1
-29	915-157	.							BLOCK, Pump	1

