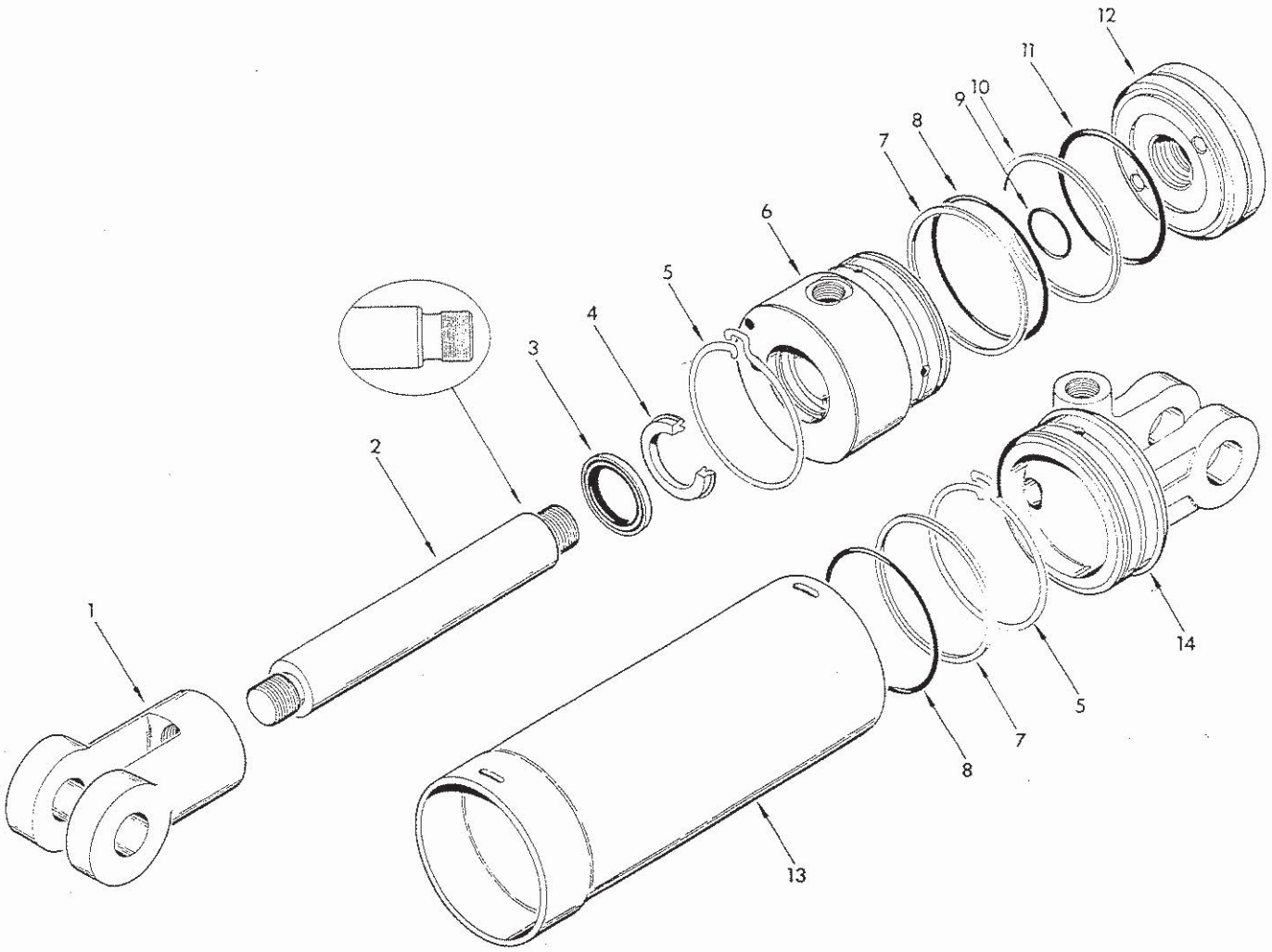


4" & 4 1/4" X 20" X 1 1/4" ROD HYDRAULIC CYLINDERS (810-029C & 810-028C)

No.	810-028C Part No.	810-029C Part No.	Description
1.	51423-100	51403-102	Rod End (Clevis)
2.	51429-301	51409-311	Piston Rod
3.	16074-225	16074-222	Wiper Seal
4.	16184-228	16184-125	U-Cup Seal
5.	16098-34	16098-25	Lock Ring
6.	51424-50	51404-50	Bearing
7.	16012-220	16012-218	Back-Up Washer
8.	16004-20	16004-18	O-Ring
9.	16003-27-90	16003-25-90	O-Ring
10.	16102-268	16102-264	Slipper Ring
11.	16004-19-90	16004-17-90	O-Ring
12.	51424-2	51404-2	Piston
13.	51424-204	51404-205	Barrel
14.	51423-150	51403-150	Head

Tools required for servicing the wyr-loc cylinder:

A complete special tool servicing kit or the individual special tools may be purchased directly from Cessna.

Cessna Special Tool Servicing Kit 51100-900
which consists of one each of the following special tools:

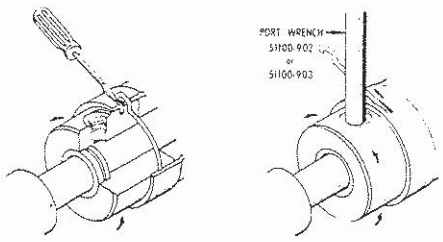
51100-901	Piston Spanner Wrench
51100-902	9/16 - 18 UNF - 3/8 NPTF Port Wrench
51100-903	3/4 - 16 UNF - 1/2 NPTF Port Wrench

Additional Equipment Required:

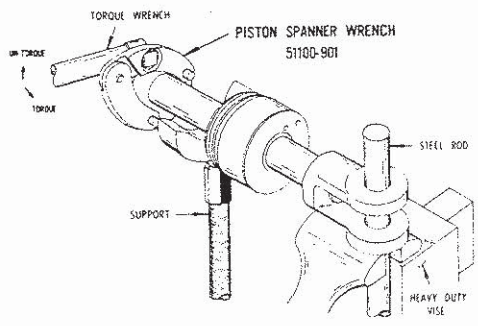
Heavy duty vise
1" diameter steel rod 8" long or 1-1/4" diameter rod 8" long
3/4" drive torque wrench (700 ft. lb. maximum)
Automotive type ring compressor or smooth surface hose clamp to fit O.D. of piston
O-ring hook tool

DISASSEMBLY

1. Drain oil from cylinder and plug all ports. Thoroughly clean outside of cylinder.
2. Clamp barrel of cylinder in vise near head end.
   Note: Scribe line across barrel and bearing to assure proper reassembly.
3. Remove lock ring (5) on bearing end (6) by lifting up on lock ring at the slot with a screwdriver while rotating the bearing. The bearing can be rotated by installing the proper size port wrench in work port in bearing. (A strap wrench or pipe wrench may be used if special port wrench is not available).
   Note: Be sure tab on end of lock ring is in hole in bearing prior to rotating the bearing.



4. Pull out on rod assembly (2) until piston (12) touches bearing (6), then pull on rod (2) until back up washer (7) and o-ring (8) are exposed under slot in barrel. Use an o-ring hook tool to pull out on o-ring and back up washer through slot. Cut both items and pull out through slot in barrel.
5. Remove piston assembly from barrel.



6. Clamp the appropriate size 8" long steel rod (same diameter as pin hole in clevis) in a heavy duty vise in a vertical position and slide clevis end of cylinder rod over steel rod.
7. Rest piston rod on an appropriate support to keep rod from moving while loosening piston.
8. Use spanner wrench and 3/4" socket drive to loosen piston from rod.
   Note: It is only necessary to remove the piston from the rod to properly service the seals in the cylinder. Occasionally the clevis may loosen from the rod before the piston. In the event the clevis should loosen first, use the spanner wrench to retorque the piston and clevis to the rod to the proper torque as noted in the torque chart. Retorque the piston till it moves on the rod. Once again use the spanner wrench to remove the piston from the rod, the piston will now loosen before the clevis loosens.
9. Remove bearing (6) from rod (2).
10. Remove lock ring (5) from head end (14) of cylinder using the same procedure as described when removing the bearing from the barrel. Cut and remove back up washer (7) and o-ring (8) then remove head end (14) from barrel.
11. Remove all o-rings, slipper ring, back up washers, u-cup seal and wiper seal from parts.

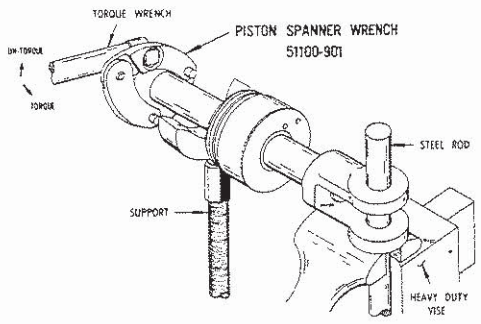
INSPECTION

The o-rings, slipper ring, back up washers, u-cup seal, wiper seal and lock rings need not be inspected as they are included in the seal repair kit available for these cylinders and should be replaced as new items.

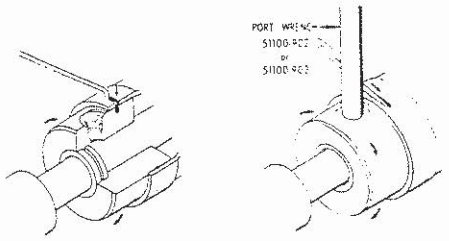
1. Remove all nicks and burrs from all parts with emery cloth.
2. Inspect I.D. of barrel for scoring and excessive wear.
3. Inspect rod for dents, scratches, scoring or pitting.
4. Inspect O.D. of piston for scoring.

REASSEMBLY

1. Clean and dry all parts thoroughly. All parts should be lightly oiled prior to assembly.
2. Install new u-cup seal (4) in I.D. of bearing (6) with u-groove towards pressure side of cylinder (inside of cylinder).
3. Install new wiper seal (3) in I.D. of bearing with lip outward.
4. Install new back-up washer (7) and o-ring (8) on O.D. of bearing (6) with o-ring towards the pressure side.
5. Install new back-up washer (7) and o-ring (8) on O.D. of head end (14) with o-ring towards pressure side.
6. Oil rod and carefully slide bearing (6) over rod with a straight forward motion. Note: One end of rod has a slight chamfer on O.D. to aid the installation of the bearing over the rod. Always assemble chamfered end of rod through the u-cup and rod wiper seals.
7. Install new o-ring (9) in I.D. of piston (12) and install piston to chamfered end of rod (2).
8. Place support under rod and place clevis on the vertical steel rod in vise. Use 3/4" drive torque wrench and spanner wrench and retorque clevis and piston to rod per the torque specifications required in torque chart. Note: It is extremely important that the piston and clevis be retorqued to the required torque specifications.



9. Install new o-ring (11), the one with the red dot, on O.D. of piston, carefully work the slipper ring (10) over piston and into groove. The slipper ring will stretch as it is installed on the piston and it must be compressed after installation to help retain its original size. An automotive type ring compressor or a smooth hose clamp is recommended as a field tool to compress the slipper ring.
10. Clamp barrel assembly in vise and carefully slip in head end (14). (Caution: It may be necessary to use a blunt tool to depress seals as they pass under slot in barrel). Line up lock ring hole in the head with the lock ring groove in the cylinder barrel. Insert lock ring (5) in the hole in head and rotate head until lock ring enters slot in barrel. Guide end of wire into slot then lightly tap end down into slot with hammer.
11. Lubricate O.D. of piston and insert rod and piston assembly into barrel with a straight forward motion. Lubricate bearing O.D. and slide bearing into barrel. (Caution: It may be necessary to use a blunt tool to depress seals as they pass under slot in barrel.) Line up lock ring hole in the bearing with lock ring groove in barrel using original scribe line as a guide.
12. Insert lock ring (5) and rotate bearing until lock ring enters slot in barrel. Guide end of wire into slot then lightly tap end down into slot with hammer. Make sure work port is in its original position and scribe lines are in line.



13. Cycle cylinder and check for leaks.

TORQUE SPECIFICATIONS FOR PISTON AND ROD CLEVIS			
ROD SIZE	ROD THREAD SIZE	ACTUAL FT. LBS. OF TORQUE	TORQUE WRENCH SETTING USING SPANNER WRENCH
1-1/8" Dia.	15/16 - 16 UN	100	No Holes
1-1/4" Dia.	1 - 16 UN	205	185
1-3/8" Dia.	1-1/6 - 16 UN	285	255
1-1/2" Dia.	1-3/16 - 16 UN	335	300
1-5/8" Dia.	1-5/16 - 16 UN	425	385
1-3/4" Dia.	1-7/16 - 16 UN	490	440
1-7/8" Dia.	1-9/16 - 16 UN	555	500
2" Dia.	1-11/16 - 16 UN	705	635

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