

CYLINDER REPAIR PROCEDURE – REVISED SEPTEMBER 16, 2021

Following is a general procedure for disassembling and repairing standard shoring cylinder(s) using Repair Kit.

NOTE: It is necessary to thoroughly clean cylinders before disassembling and maintain a clean work area when repairing cylinders as any dirt in the cylinder may cause seal failure, cylinder barrel damage, etc,

AS520425 REPAIR KIT CONTENTS

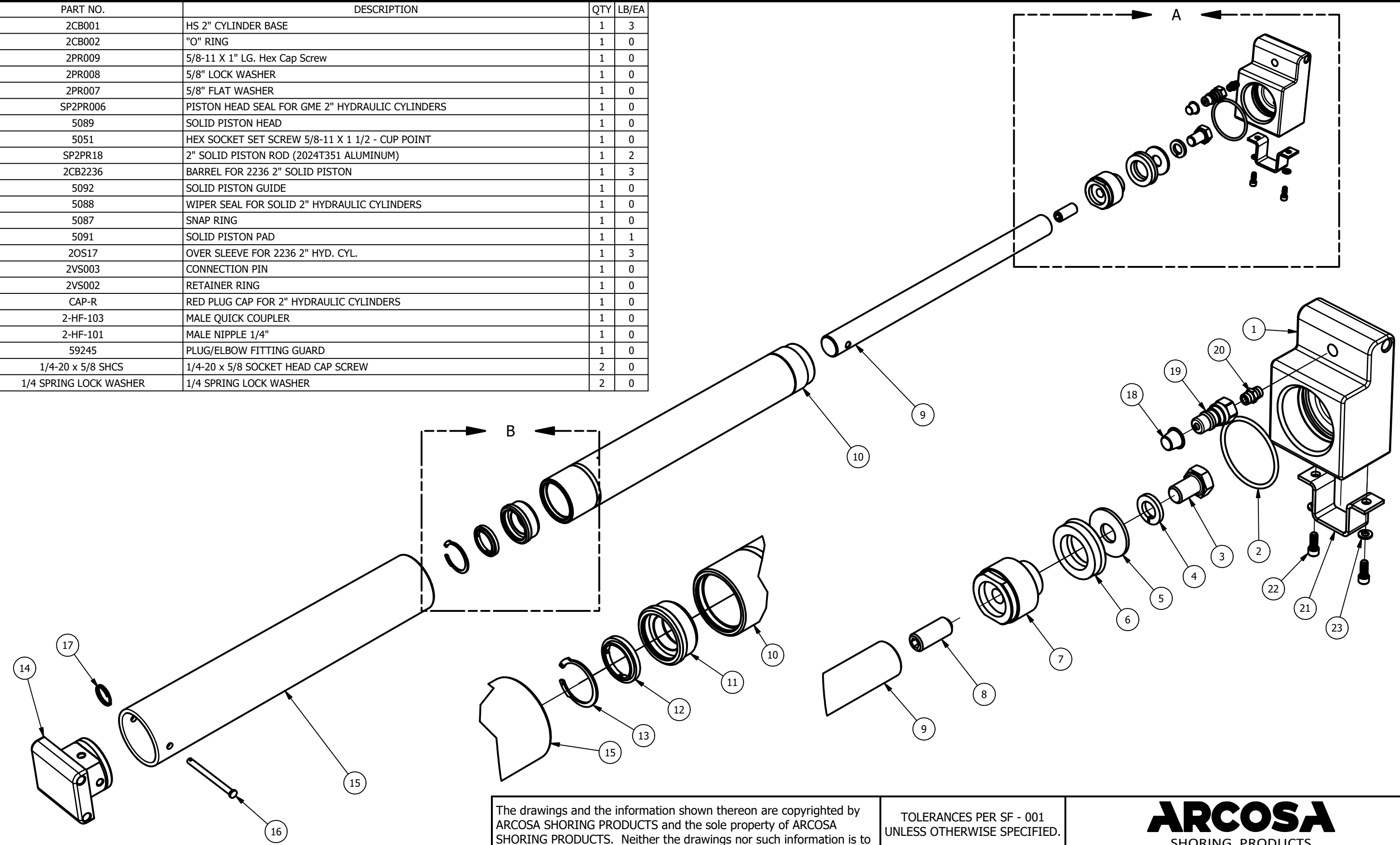
PART NUMBER	DESCRIPTION
AS520425-1*	REPAIR INSTRUCTION SHEET
4707*	H.D. CLOSE NIPPLE (ALL)
2-HF-103	MALE QUICK COUPLER (ALL)
59205	CYLINDER PAD O-RING (EPI)
2CB002	CYLINDER PAD O-RING (EPI2, STS, STS2)
59215	PISTON HEAD O-RING (EPI)
5087	WIPER GUIDE SNAP RING (EPI, EPI2, STS)
5088	ROD WIPER SEAL (EPI, EPI2, STS)
SP2PR006	PISTON HEAD SEAL (ALL)
59237	"MOLYGARD" WEAR RING (STS)
2PR001	ROD WIPER SNAP RING (STS2)
2PR002	ROD WIPER SEAL (STS2)
*4707 & 2-HF-103 WILL BECOME NEW ONE PIECE	

NOTE: It is advisable to test the defective cylinder in a test fixture similar to EPI fixture to establish the nature and location of the problem before disassembling the cylinder for repair. It may not be necessary to replace all the parts in this kit to correct the problem being experienced.

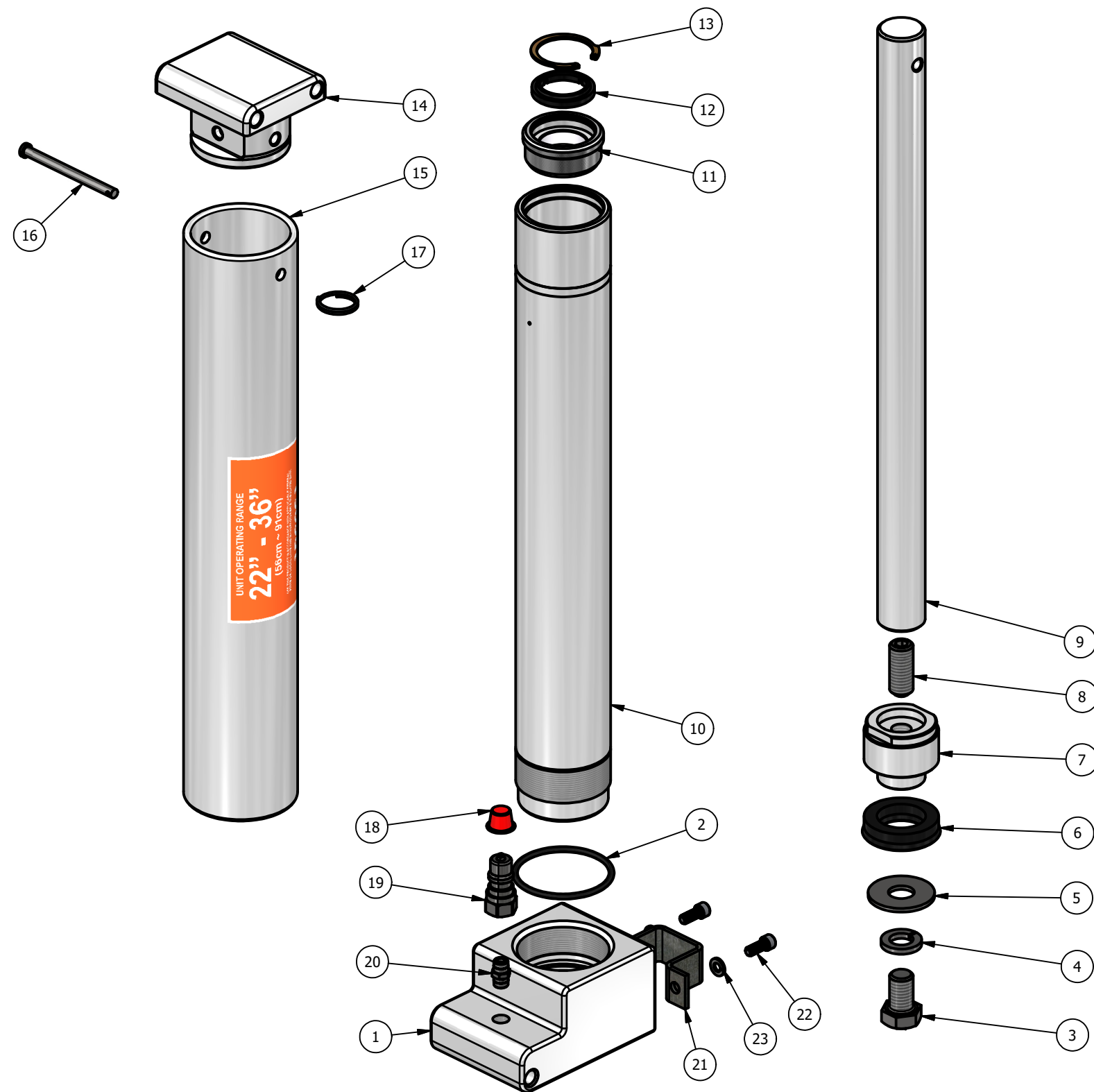
1. Remove the male quick coupler and close nipple from the front of the cylinder base and remove the drain plug or other fitting from rear of cylinder base. Drain remaining fluid from the cylinder.
2. Compress cylinder to its closed length if this has not already been done.
3. Place cylinder in holding fixture or similar holding device with the cylinder base down and install rail pin to hold the cylinder in place.
4. Remove the kickout ring from the piston pad pin and remove the pin.
5. Remove the piston pad and oversleeve from the cylinder assembly.
6. Loosen the cylinder barrel from the cylinder base using a barrel wrench. **NOTE: If a standard pipe wrench is used for this operation, cylinder barrel damage may occur, causing possible failure under operating conditions.**
7. Hand loosen the barrel and piston rod assembly from the cylinder base, taking care to not tilt the barrel as thread damage may occur. This is especially important when repairing the longer stroke cylinder.
8. Remove the piston rod assembly from the cylinder barrel by pushing on rod end.

9. Place piston rod assembly in fixture or similar holding device and remove the piston head bolt, piston head washer, and piston head lock washer.
10. Remove the piston head seal and the piston head from the piston rod. Remove the piston head seal and the piston head "O" ring (EPI Cylinder) and wear ring (STS cylinder) from the piston head and clean the piston head thoroughly.
11. Examine the piston head for nicks, burrs, etc. Lubricate and install the piston head seal and piston head O-ring and "molygard" wear ring (STS cylinder) from the repair kit. **NOTE: Take extra care to ensure that the O-ring is fully sealed in the groove and handle the piston head with the rod side up to prevent the O-ring from falling out of the groove.**
12. Hand reassemble the piston rod assembly and tighten the bolt in the fixture noted above.
13. Remove the cylinder base O-ring from the cylinder base and clean the cylinder base. **(NOTE: This is a special metric O-ring; do not attempt to use a standard O-ring that is "close" to the right size.)** Examine the cylinder base for nicks, burrs, etc. in the threads and O-ring groove.
14. Lubricate the new cylinder base, then install the O-ring in the groove. **NOTE: Take special care that the O-ring is fully seated in the groove.**
15. Remove the wiper guide snap ring from the cylinder barrel using pliers.
16. Remove the wiper seal and clean the seal pocket and inside diameter of the cylinder barrel assembly.
17. Examine the inside diameter of the cylinder barrel for dirt, scratches, etc. Examine the O-ring seal surface at the threaded end of the barrel for nicks, burrs, etc. **NOTE: If any of the three areas show damage, they must be repaired, or the barrel replaced before reassembling the cylinder.**
18. Install new rod wiper seal and snap ring from kit and install the piston rod assembly in the barrel.
19. Put anti-seize compound on the barrel threads and hand assemble into the cylinder base. Tighten the barrel into the cylinder base using the barrel wrench. **NOTE: Do not over tighten, as thread damage may occur. One light tug on the barrel wrench should be enough to seat the O-ring and tighten the barrel.**
20. Put sealant on one end of the close nipple and hand thread into the male coupler. Put sealant on the exposed threads of the close nipple and thread into the cylinder base. Tighten these securely together into the cylinder base.
21. Reinstall the drain plug in the back part of the cylinder and test the assembled cylinder for leaks in the test fixture.
22. Reinstall the oversleeve, piston pad, pin and kickout ring.
23. Install the proper fitting in the rear port for the next application, if known, and place the repair cylinder in storage.

ITEM	PART NO.	DESCRIPTION	QTY	LB/EA
1	2CB001	HS 2" CYLINDER BASE	1	3
2	2CB002	"O" RING	1	0
3	2PR009	5/8-11 X 1" LG. Hex Cap Screw	1	0
4	2PR008	5/8" LOCK WASHER	1	0
5	2PR007	5/8" FLAT WASHER	1	0
6	SP2PR006	PISTON HEAD SEAL FOR GME 2" HYDRAULIC CYLINDERS	1	0
7	5089	SOLID PISTON HEAD	1	0
8	5051	HEX SOCKET SET SCREW 5/8-11 X 1 1/2 - CUP POINT	1	0
9	SP2PR18	2" SOLID PISTON ROD (2024T351 ALUMINUM)	1	2
10	2CB2236	BARREL FOR 2236 2" SOLID PISTON	1	3
11	5092	SOLID PISTON GUIDE	1	0
12	5088	WIPER SEAL FOR SOLID 2" HYDRAULIC CYLINDERS	1	0
13	5087	SNAP RING	1	0
14	5091	SOLID PISTON PAD	1	1
15	2OS17	OVER SLEEVE FOR 2236 2" HYD. CYL.	1	3
16	2VS003	CONNECTION PIN	1	0
17	2VS002	RETAINER RING	1	0
18	CAP-R	RED PLUG CAP FOR 2" HYDRAULIC CYLINDERS	1	0
19	2-HF-103	MALE QUICK COUPLER	1	0
20	2-HF-101	MALE NIPPLE 1/4"	1	0
21	59245	PLUG/ELBOW FITTING GUARD	1	0
22	1/4-20 x 5/8 SHCS	1/4-20 x 5/8 SOCKET HEAD CAP SCREW	2	0
23	1/4 SPRING LOCK WASHER	1/4 SPRING LOCK WASHER	2	0



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	<p>DRAWN: C. STEVENS</p>	<p>DATE: 6/26/2018</p>	
<p>ESTIMATED WEIGHT = 13 lbmass</p>		<p>UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN INCHES. DIMENSIONS ACCORDING TO ASME Y14.5M-1994 UNLESS OTHERWISE SPECIFIED.</p>	<p>SHEET: 1 of 2</p>



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DRAWN: C. STEVENS
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ARCOSA

SHORING PRODUCTS

**HYDRAULIC CYLINDER ASSEMBLY
SOLID PISTON ROD
MODEL 22-36**

ESTIMATED WEIGHT = 13 lbmass



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DRAWING: CYLINDER ASSEMBLY PROCEDURE

SHEET: 2 of 2