Haskel
MILTON ROY

OPERATING AND MAINTENANCE MANUAL

AG SERIES GAS BOOSTERS

Model Numbers: **Serial Number:**

AG-1.5, AG-4, AG-7, AG-15, AG-30, AG-50, AG-62, AG-75, AG-102, AG-152, AG-233, AG-303

INDEX

SUPPLEMENTAL DOCUMENT OM-3

MODEL NO.	TOP ASSEMBLY NO.	AIR DRIVE NO.	GAS SECTION NO.
AG-1.5	51070		
AG-4	17714/SK008		
AG-7	29330	AD-21	GS-7
AG-15	27950	AD-6	GS-15
AG-30	17260	AD-6	GS-30
AG-50	86807	AD-6	GS-50
AG-62	17265	AD-8	GS-30
AG-75	17261	AD-6	GS-75
AG-102	86811	AD-8	GS-50
AG-152	17266	AD-8	GS-152
AG-233	17664	AD-10	GS-152
AG-303	54670		

REVISIONS					
REV	DESCRIPTION	DATE	DISP	BY	APPD
J	REVISED PER ECO 7915	4/12/01		AR	

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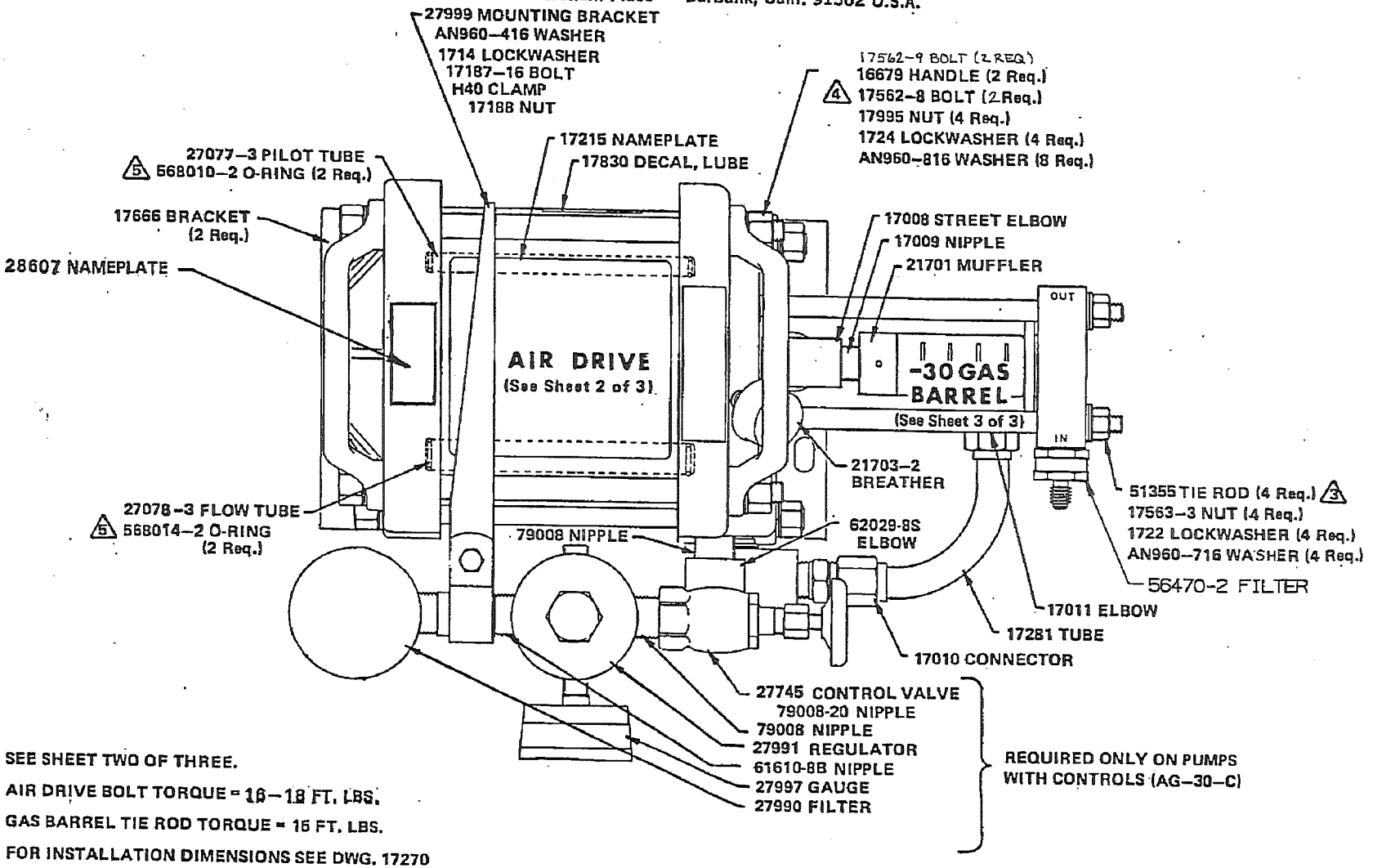
100 E. Graham Place — Burbank, Calif. 91502 U.S.A.

17260



NOTES:

1. ALL PARTS (1) REQ. UNLESS SHOWN IN PARENTHESES.
2. FOR INSTALLATION DIMENSIONS SEE DWG. 17270
3. GAS BARREL TIE ROD TORQUE = 15 FT. LBS.
4. AIR DRIVE BOLT TORQUE = 16–18 FT. LBS.
5. SEE SHEET TWO OF THREE.

PARTS LIST
AG- 30

CONTROL COPY
LOCATION # 1

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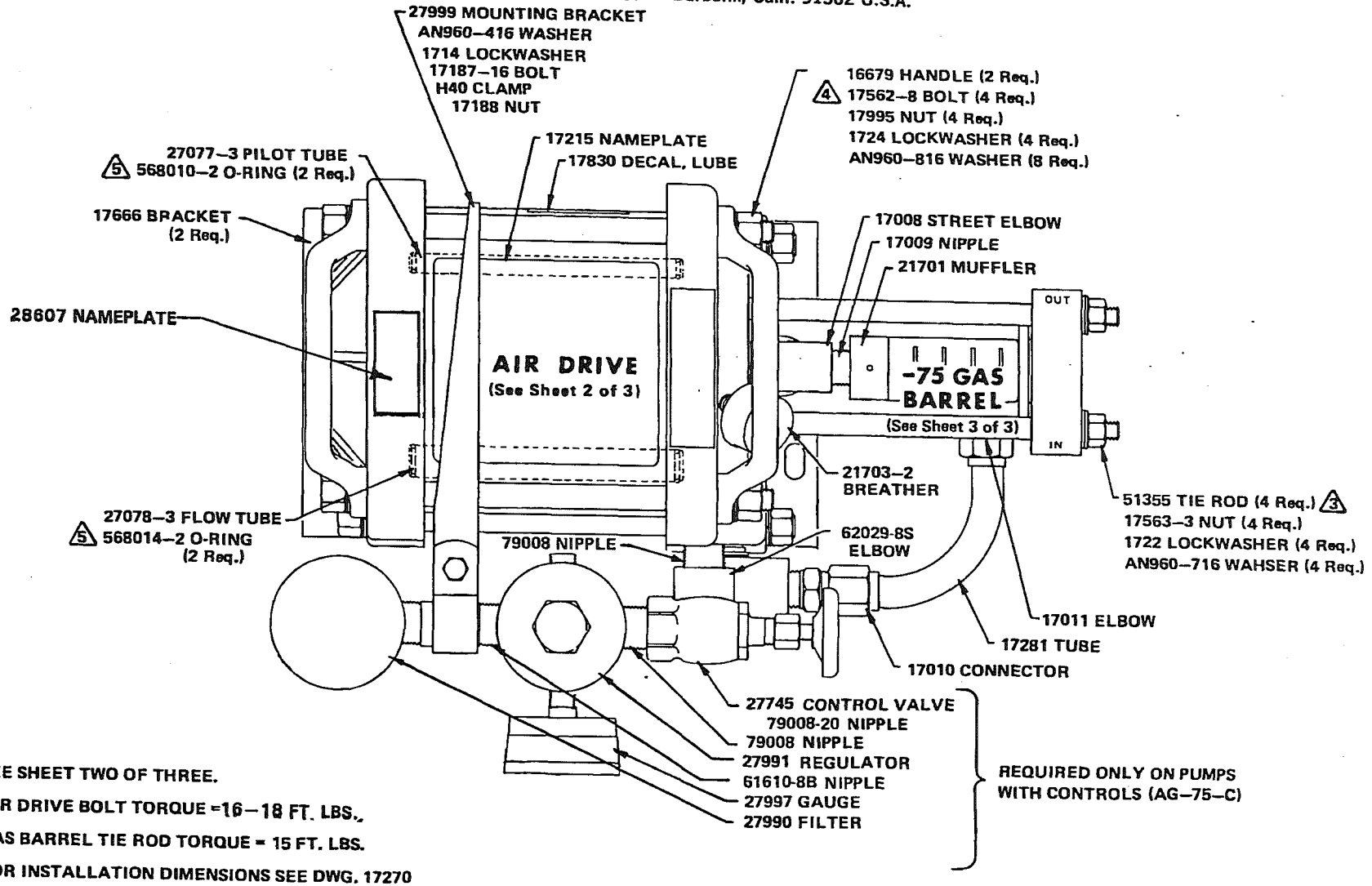

NOTES:

1. ALL PARTS (1) REQ. UNLESS SHOWN IN PARENTHESES.
2. FOR INSTALLATION DIMENSIONS SEE DWG. 17270
3. GAS BARREL TIE ROD TORQUE = 15 FT. LBS.
4. AIR DRIVE BOLT TORQUE =16–18 FT. LBS.
5. SEE SHEET TWO OF THREE.

PARTS LIST
AG- 75

17261

Revision G 2-81

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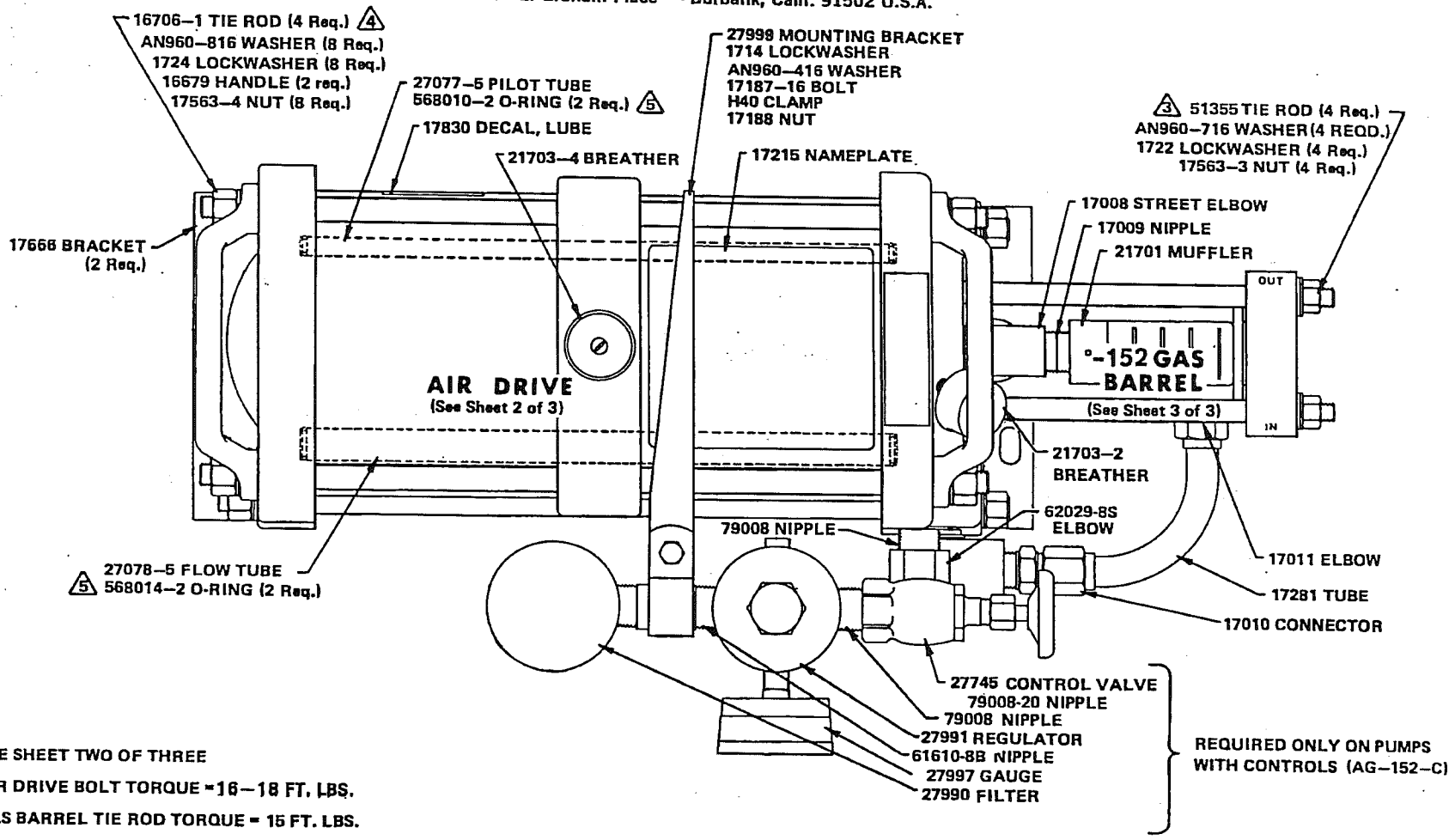

NOTES:

1. ALL PARTS (1) REQ. UNLESS SHOWN IN PARENTHESES.
2. FOR INSTALLATION DIMENSIONS SEE DWG. 17272
3. GAS BARREL TIE ROD TORQUE = 15 FT. LBS.
4. AIR DRIVE BOLT TORQUE = 16–18 FT. LBS.
5. SEE SHEET TWO OF THREE

PARTS LIST
AG–152

17266
Sheet 1 of 3
Revision H 9/89

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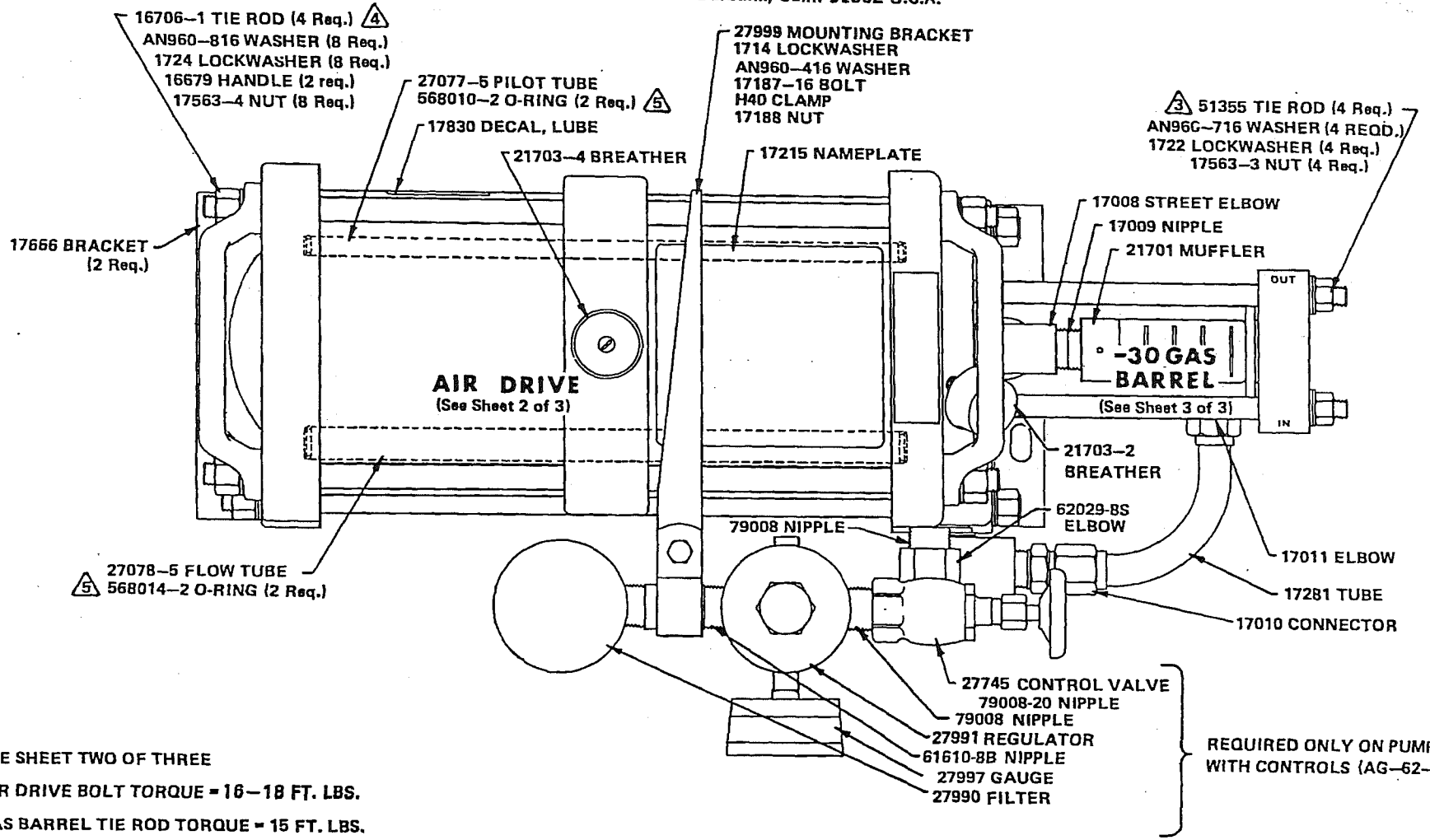
100 E. Graham Place — Burbank, Calif. 91502 U.S.A.



NOTES:

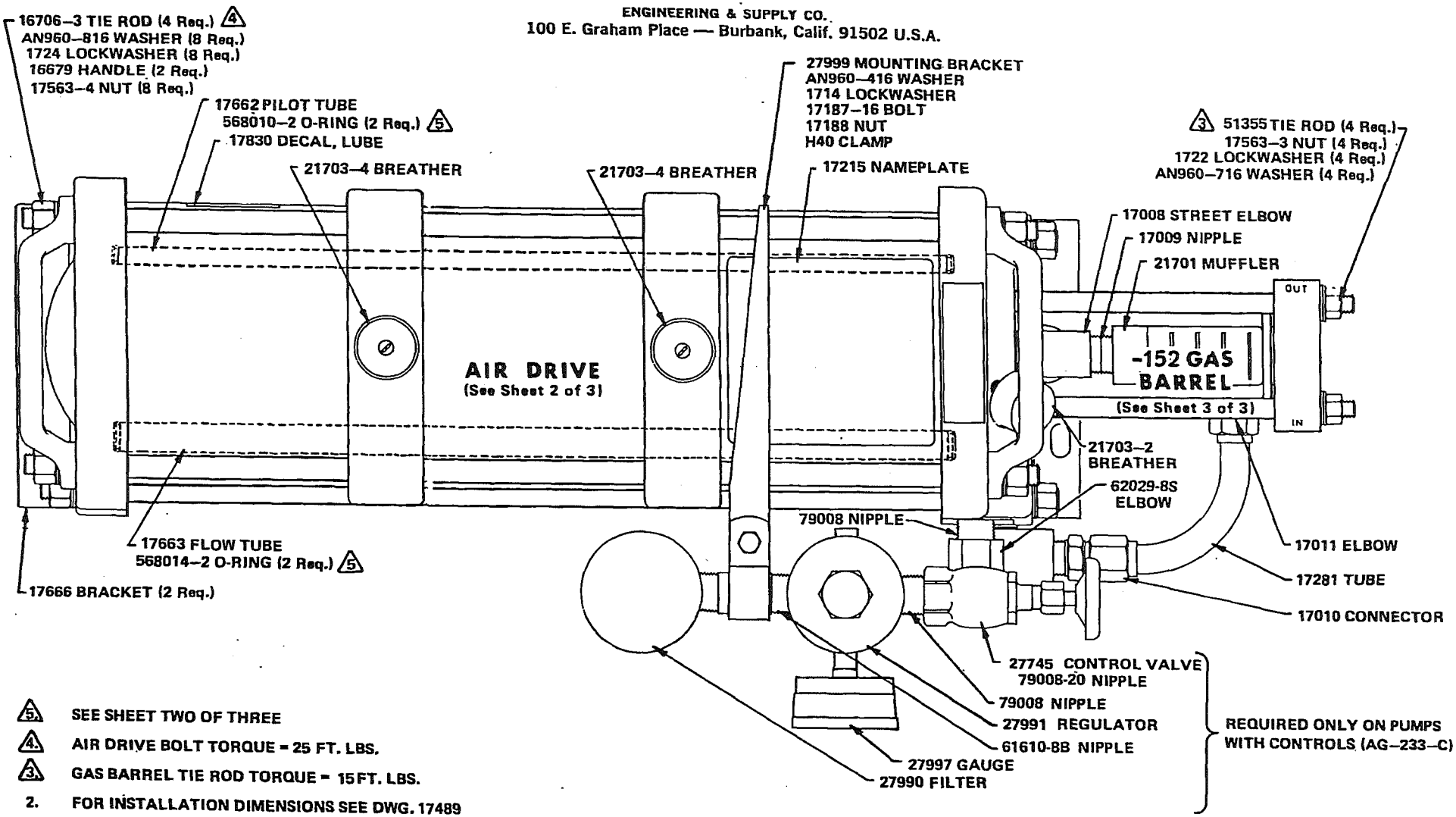
1. ALL PARTS (1) REQ. UNLESS SHOWN IN PARENTHESES.
2. FOR INSTALLATION DIMENSIONS SEE DWG. 17272
3. GAS BARREL TIE ROD TORQUE = 15 FT. LBS.
4. AIR DRIVE BOLT TORQUE = 16–18 FT. LBS.
5. SEE SHEET TWO OF THREE

PARTS LIST
AG-62

17265
Sheet 1 of 3
Revision J 9/89

Haskel

ENGINEERING & SUPPLY CO.
100 E. Graham Place — Burbank, Calif. 91502 U.S.A.



NOTES:

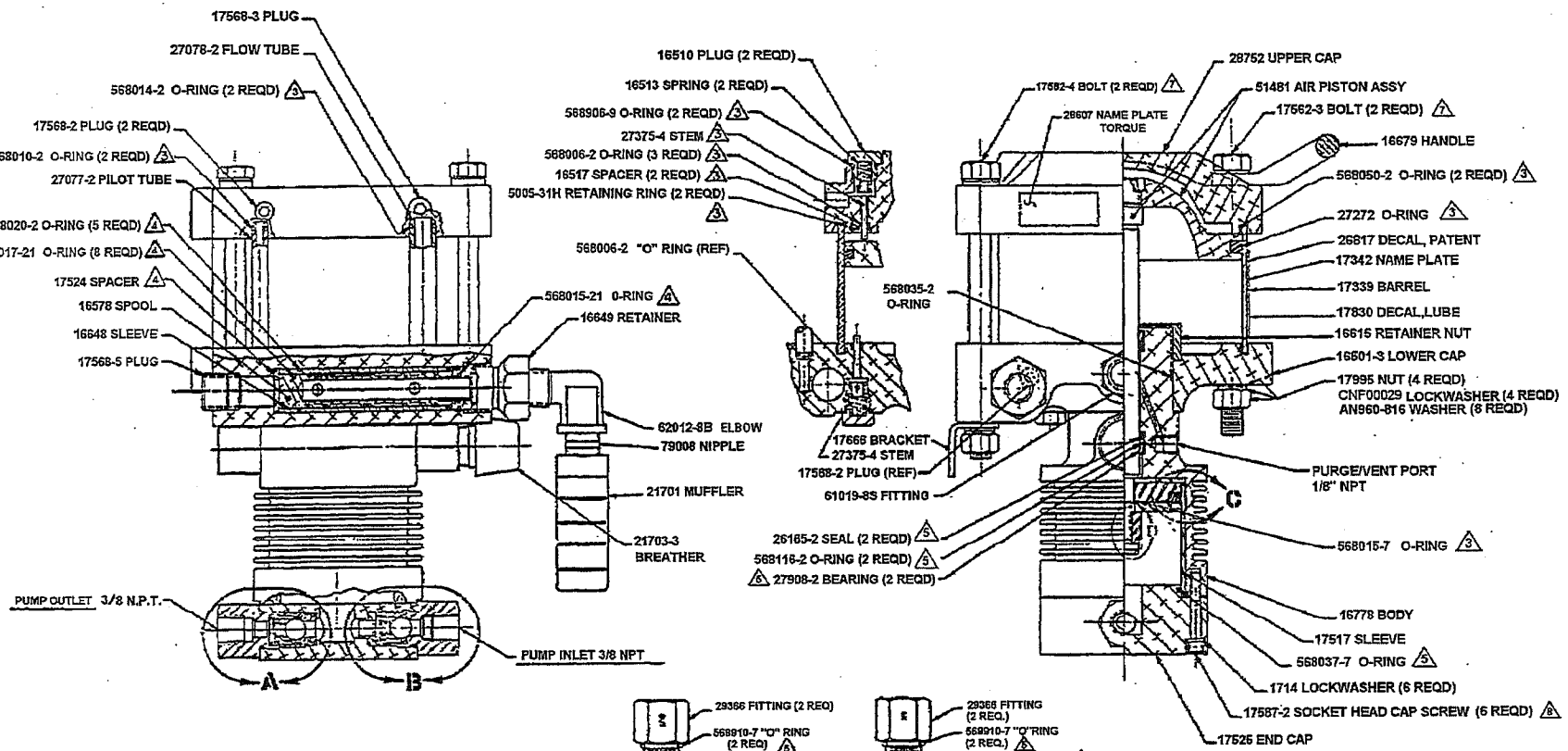
1. ALL PARTS (1) REQ. UNLESS SHOWN IN PARENTHESES.
2. FOR INSTALLATION DIMENSIONS SEE DWG. 17489
3. GAS BARREL TIE ROD TORQUE = 15 FT. LBS.
4. AIR DRIVE BOLT TORQUE = 25 FT. LBS.
5. SEE SHEET TWO OF THREE

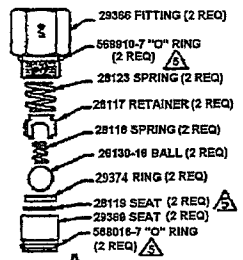
PARTS LIST
AG-233

17664

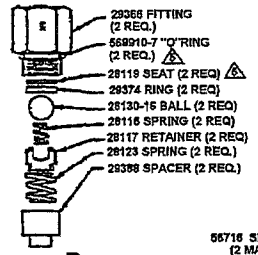
Sheet 1 of 3
Revision F 3-79

REVISIONS				
REV	DESCRIPTION	DATE	BY	CHKD
M	REVISED PER ECO 27138	8/10/05	D.K.	

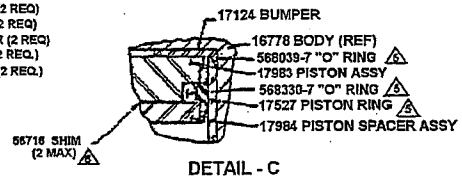




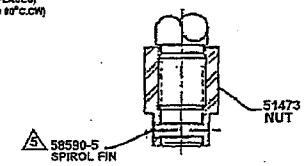
DETAIL A
OUTLET CHECK VALVE (EXPLODED VIEW) (TYP.2 PLACES) (ROTATED 90°CW)



DETAIL B
INLET CHECK VALVE (EXPLODED VIEW) (TYP. 2 PLACES) (ROTATED 90°C.CW)



DETAIL - C
2 X SIZE



DETAIL D
2 X SIZE

8 TORQUE TO 80-85 IN-LBS

7 TIGHTEN BOLTS TO 16-18 FT-LBS.

6 ADD 56715 SHIMS BETWEEN PISTON HALVES TO MINIMIZE GAP BETWEEN 17984 PISTON SPACER AND 51473 NUT WHEN 56590-5 SPIROL PIN INSTALLED (MAX 2 SHIMS)

5 GAS SECTION SEALS KIT, PART NO. 29013, CONSISTS OF PARTS IDENTIFIED BY 5

4 AIR CONTROL VALVE SEALS KIT, PART NO. 16771, INCLUDES SEALS IDENTIFIED BY 4, PLUS A TUBE OF HASKEL SILICONE LUBRICANT.

3 AIR DRIVE SEALS KIT, PART NO. 16772, INCLUDES SEALS IDENTIFIED BY 3, PLUS A TUBE OF HASKEL SILICONE LUBRICANT.

2 AIR PISTON ASSEMBLY IS A NON-SEPARABLE ASSEMBLY AND COMPONENT PARTS THEREOF CANNOT BE PROCURED.

1 LUBRICATE CONTROL VALVE ASSEMBLY WITH LUBRICANT PER HPS-3.14 LUBRICATE 568050-2 AIR BARREL O-RING GASKETS.

NOTE:

Haskel INTL INC.
100 E. GRAHAM PL.
BURBANK, CA 91502

TITLE
PUMP ASSEMBLY
AG-4

SIZE E | CAGE MARK NO. 81400 | DWG. NO. 17714

SCALE 1/1 WT. SHEET 1 OF 1

Haskel

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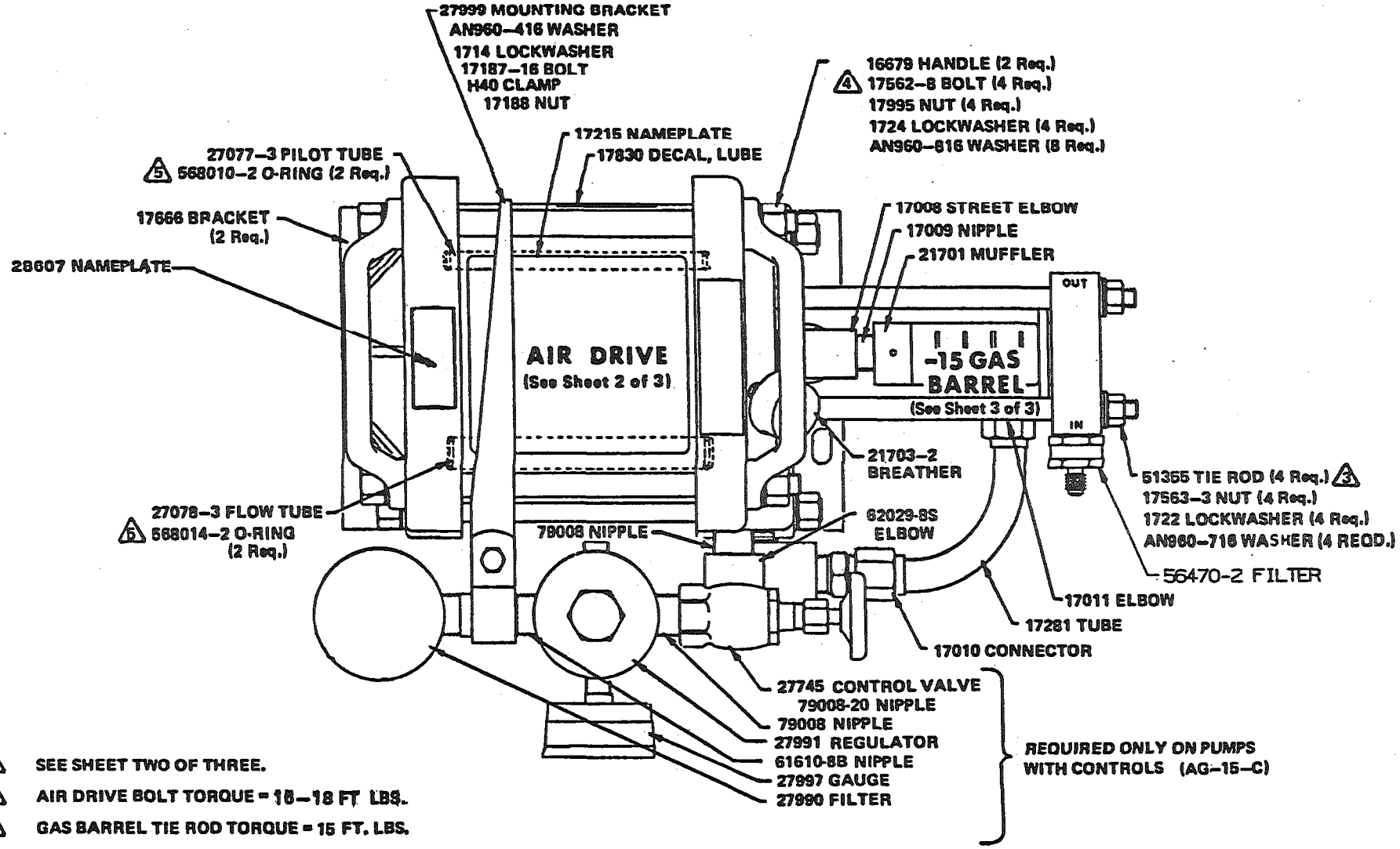


NOTES:

1. ALL PARTS (1) REQ. UNLESS SHOWN IN PARENTHESES.
2. FOR INSTALLATION DIMENSIONS SEE DWG. 17270
3. GAS BARREL TIE ROD TORQUE = 15 FT. LBS.
4. AIR DRIVE BOLT TORQUE = 16–18 FT LBS.
5. SEE SHEET TWO OF THREE.

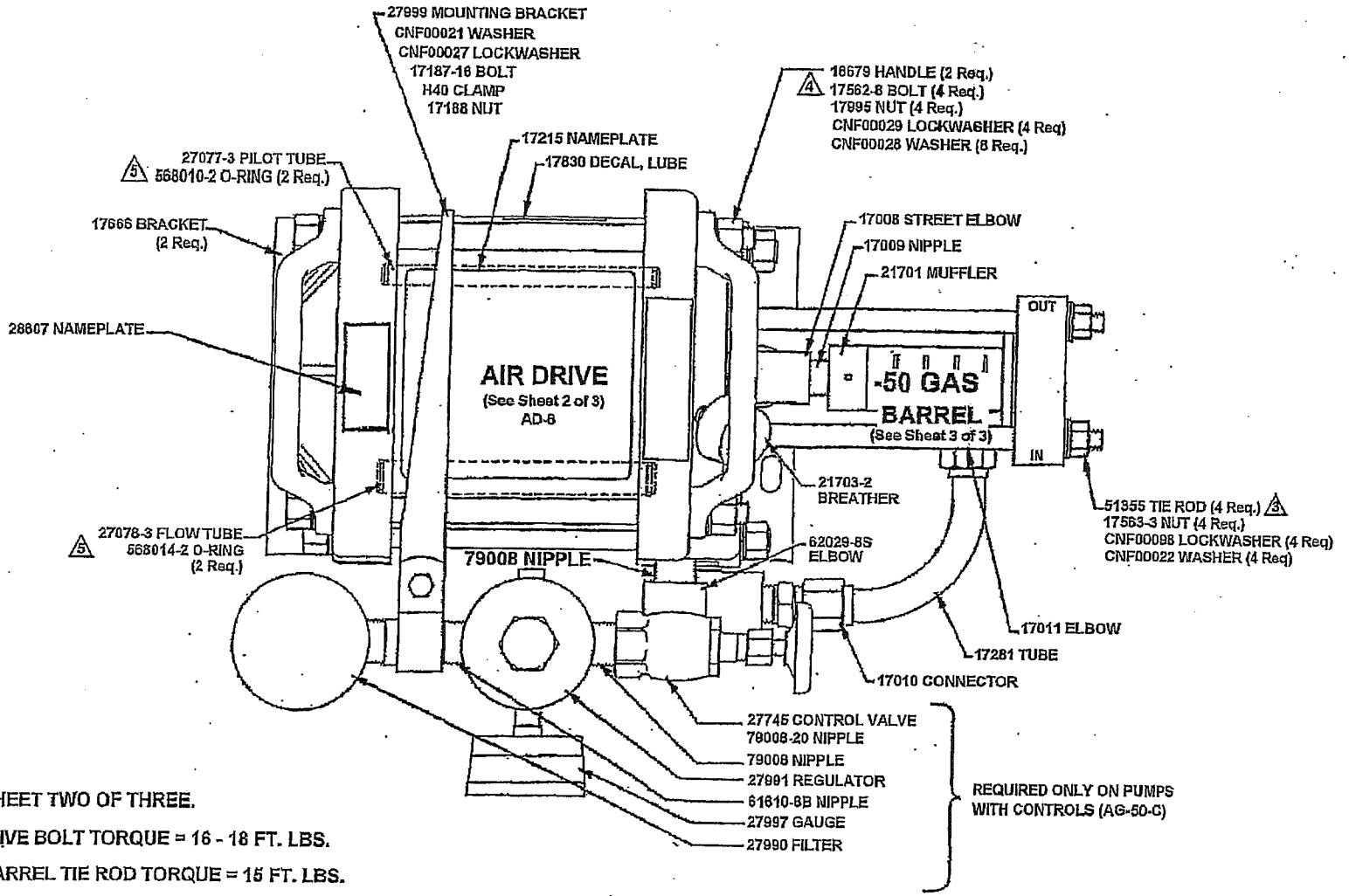
PARTS LIST
AG - 15

27950

Revision F 8/88

REVISIONS				
REV	DESCRIPTION	DATE	BY	CHKD
A	IPR, ECO 26961	9/1/06	D.K.	

Haskel
MILTON ROY



5. SEE SHEET TWO OF THREE.
4. AIR DRIVE BOLT TORQUE = 16 - 18 FT. LBS.
3. GAS BARREL TIE ROD TORQUE = 15 FT. LBS.
2. FOR INSTALLATION DIMENSIONS SEE DWG. 17270
1. ALL PARTS (1) REQ, UNLESS SHOWN IN PARENTHESES.

NOTES:

INSTALLATION
PARTS LIST
AG-50

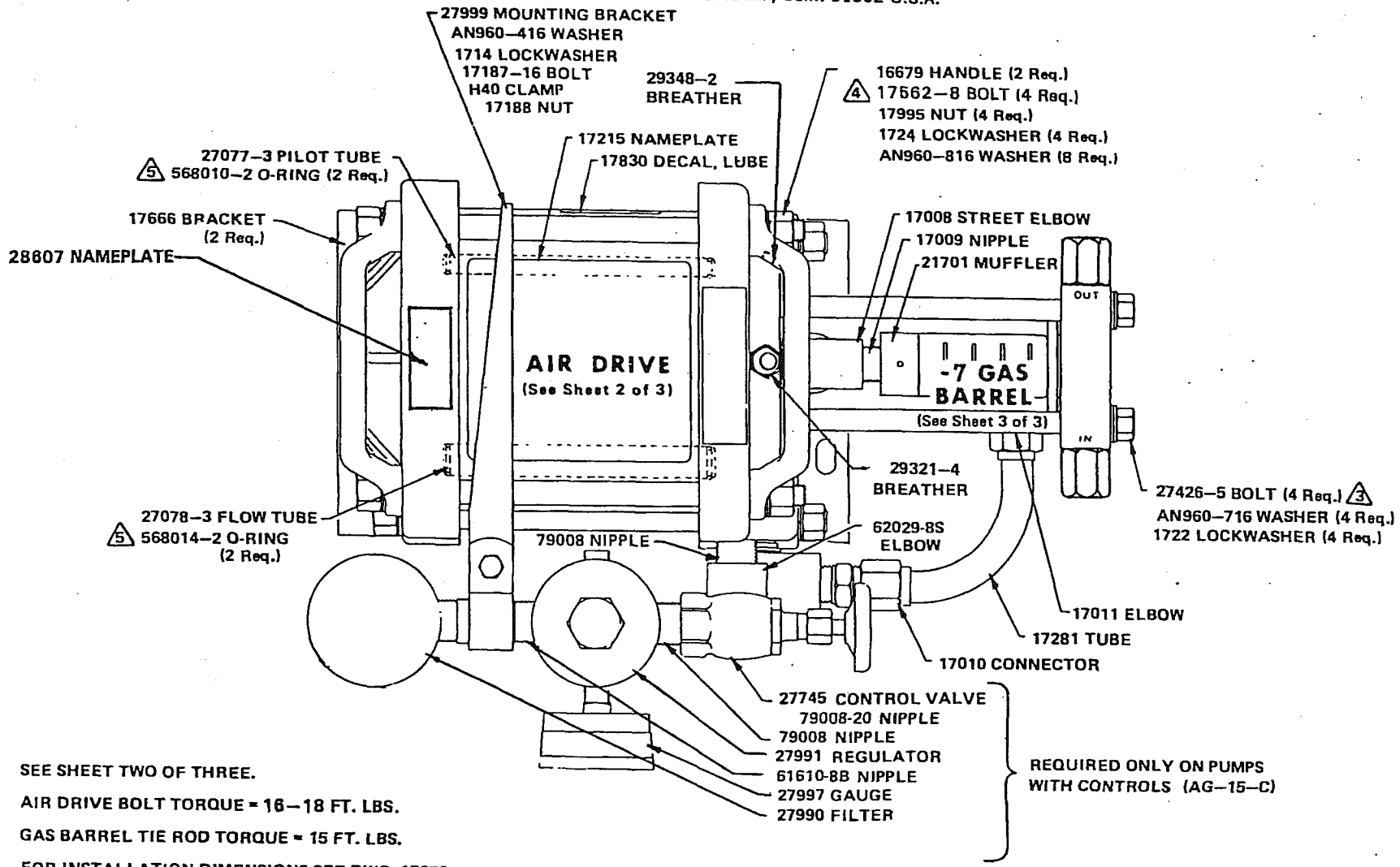
86807

86807

Haskel

INCORPORATED

100 E. Graham Place — Burbank, Calif. 91502 U.S.A.



5. SEE SHEET TWO OF THREE.
4. AIR DRIVE BOLT TORQUE = 16–18 FT. LBS.
3. GAS BARREL TIE ROD TORQUE = 15 FT. LBS.
2. FOR INSTALLATION DIMENSIONS SEE DWG. 17270
1. ALL PARTS (1) REQ. UNLESS SHOWN IN PARENTHESES.

NOTES:

PARTS LIST
AG - 7

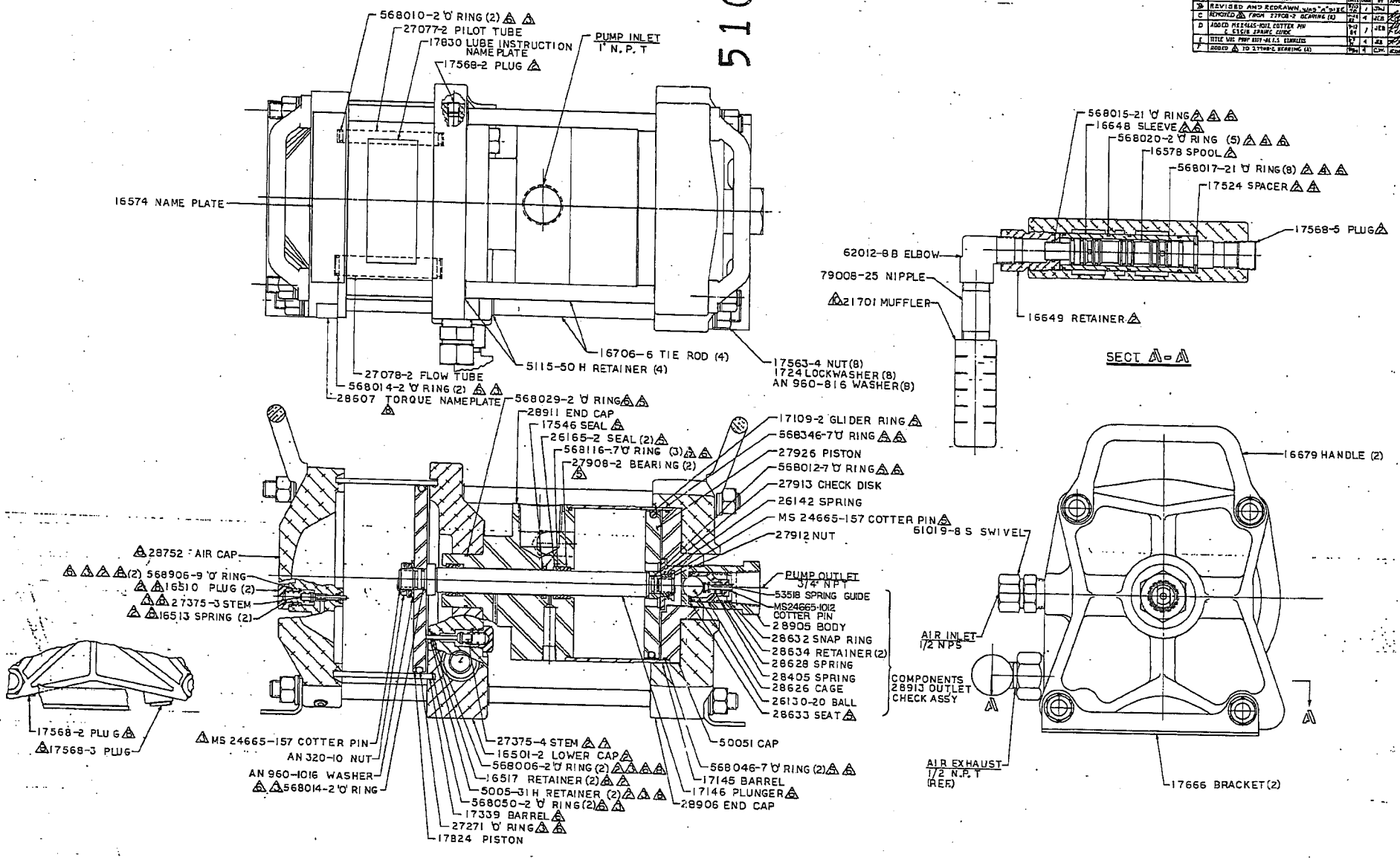
29330

Sheet 1 of 3

Revision F 2-81

51070

REVISIONS				
1. MUST BE INCORPORATED 2. USE EXISTING PART AS IS DISPOSITION EITHER THAN ABOVE TO BE DESIGNATED IN DESCRIPTION COLUMN			3. NOW SHOP PRACTICE 4. RECORD CHANGE	
LTR.	DESCRIPTION	DATE	DSN	BY	APPR.
B	REVISED AND REDRAWN, WAS "A" SIZE	1/20	1	JNJ	
C	REMOVED Δ FROM 27908-2 BEARING (2)	7/14	4	HCB	
D	ADDED MS24665-1012 COTTER PIN & 53518 SPRING GUIDE	9/12	1	JEB	
E	TITLE WAS PUMP ASSY-AG 1.5 STAINLESS	12	4	JEB	
F	ADDED Δ TO 27908-2 BEARING (4)	7/15	4	CM	



Δ LUBRICATE I.D.S OF AIR BARREL ‡ AIR VALVE SLEEVE AND 'O' RINGS WITH A LIGHT COAT OF 28442 SILICONE LUBRICANT.

Δ PARTS IN PUMP SECTION SEALS KIT 50080

Δ PARTS IN AIR CONTROL VALVE SEALS KIT 16771

Δ PARTS IN AIR DRIVE SEALS KIT 17838

Δ PARTS OF 16551-2 LOWER CAP ASSEMBLY

NOTES:

1. ALL PARTS (1) REQD UNLESS SHOWN IN PARENTHESES.

Δ ORIENT MUFFLER POSITION (AS SHOWN) TO DIRECT EXHAUST AIR TOWARD BARREL

2. ALL METALS IN CONTACT WITH FLUID ARE 300 SERIES CRES EXCEPT PLUNGER WHICH IS 17-4 PH & CHECK DISK WHICH IS 15-5 PH.

Δ PARTS OF 16552 AIR CAP ASSEMBLY.

Δ LOWER CAP STEM MUST BE GROUND SO THAT IT IS DEPRESSED .030 TO .080 BY AIR PISTON WHEN PUMP PISTON BOTTOMS OUT ON CAP 50051.

QTY. REQD.	FIG. NO.	PART NO.	DESCRIPTION

PARTS LIST

MATERIAL	N/A	DRAWN	9/1/12
TREATMENT	—	CHECKED	9/12/12
FINISH	—	APPR.	9/12/12

CONTRACT NO.

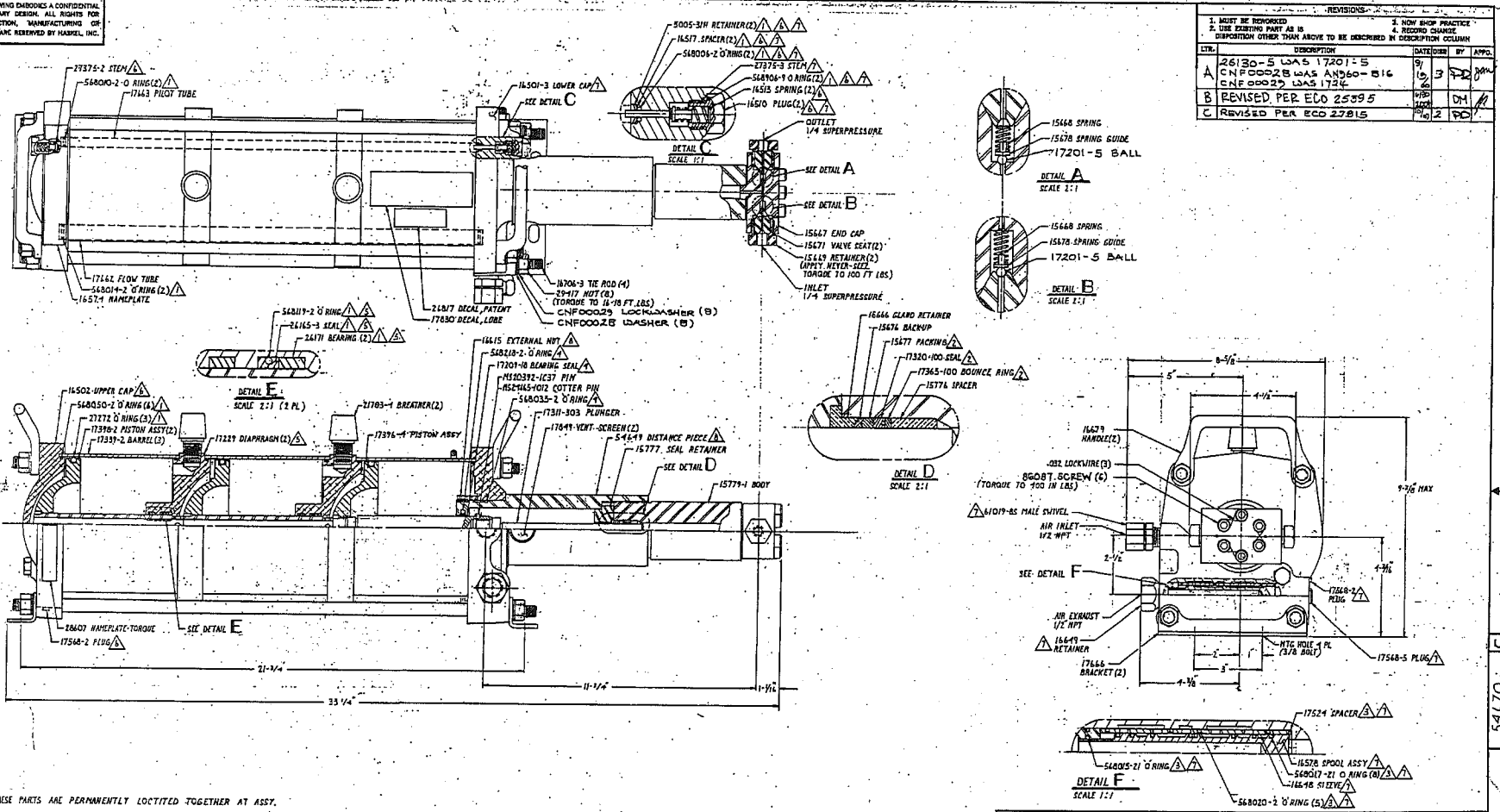
HASKEL ENGINEERING & SUPPLY CO. 100 E. GRAHAM PLACE BURBANK, CALIFORNIA 91502, U.S.A.

TITLE: GAS BOOSTER ASSY AG 1.5

SIZE E | CODE IDENT. NO. 81400 | DWG. NO. 51070

SCALE — | WT: | SHEET 1 OF 1

51070 F



REVISIONS				
1. MUST BE REWORKED 2. USE EXISTING PART AS IS DISPOSITION OTHER THAN ABOVE TO BE DESCRIBED IN DESCRIPTION COLUMN			3. NOW SHOP PRACTICE 4. RECORD CHANGE	
LTR.	DESCRIPTION	DATE	DISP.	BY / APPD.
A	26130-5 WAS 17201-5 CNF00028 WAS AN960-516 CNF00029 WAS 17124	9/16/86	3	PD
B	REVISED PER ECO 25395	9/30/87		DM
C	REVISED PER ECO 27815	10/16/90	2	PD

△8 THESE PARTS ARE PERMANENTLY LOCTITED TOGETHER AT ASSY.
△7 PARTS INCLUDED IN LOWER CAP ASSY 16551-3 (REF).
△4 PARTS INCLUDED IN UPPER CAP ASSY 16552-4 (REF).
△5 PARTS INCLUDED IN DIAPHRAGM ASSY 28601 (REF).
△6 PARTS INCLUDED IN DISTANCE PIECE SEALS KIT 17327.
△3 PARTS INCLUDED IN CONTROL VALVE SEALS KIT 16771.
△2 PARTS INCLUDED IN GAS SECTION SEALS KIT 55047.
△1 PARTS INCLUDED IN AIR SECTION SEALS KIT 51545-4.

NOTES:

ITEM NO.	QTY. REQD.	PART NO.	DESCRIPTION

PARTS LIST

MACH. TOLERANCES: UNLESS OTHERWISE SPECIFIED. DECIMAL DIA. .XX±.030 .XXX±.010. ANGULAR DIM. 4°±1° FOR 6"/6" RF. CONCENTRICITY .XXX T.I.R. BROKE SHARP EDGES - EXTERNAL RADII: .005-.020R. MACHINE FINISH 63

MATERIAL: NOTED

TREATMENT:

FINISH:

CONTRACT NO.

DRAWN J-BARLOW 7-25-86

CHECKED BV

APPD. RWR

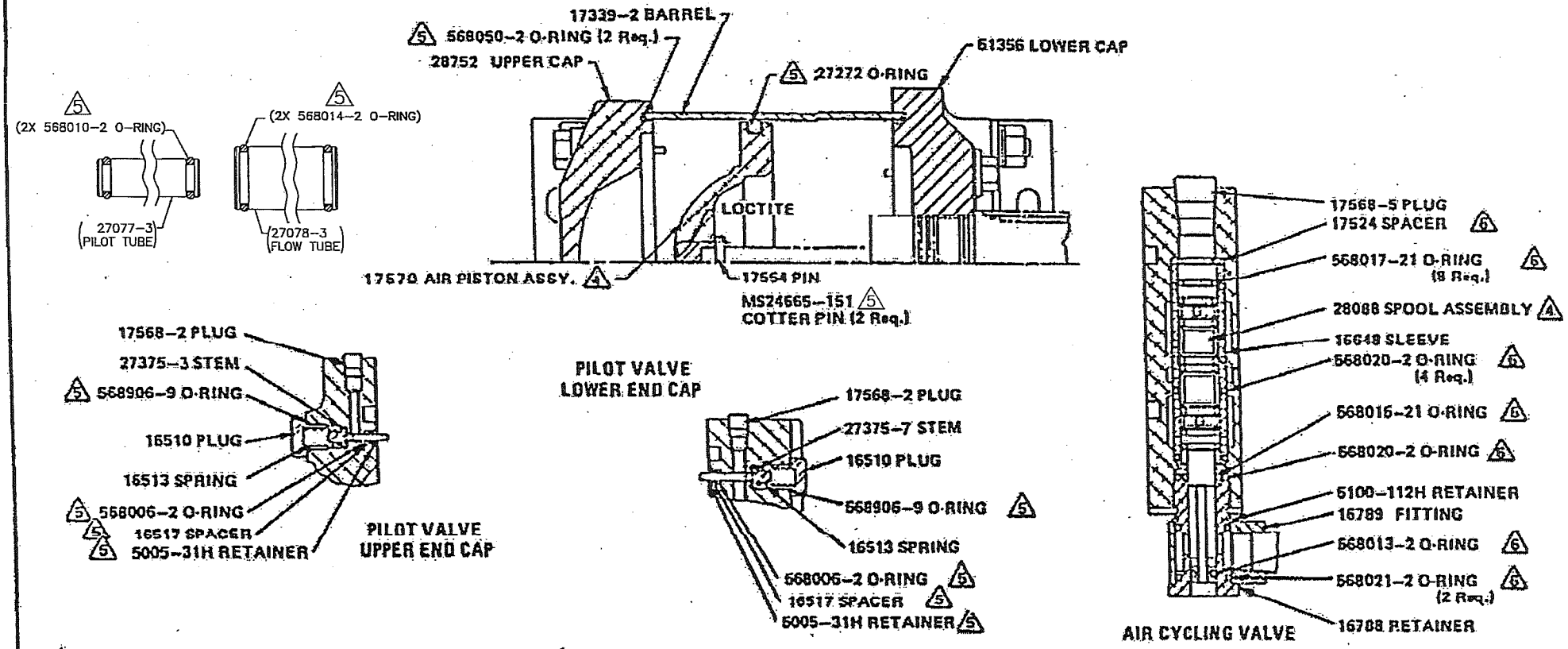
HASKEL, INC. 100 East Graham Place • Burbank, California 91502 • U.S.A. (818) 843-4200

TITLE: AG-303 GAS BOOSTER ASSY / INSTALLATION

SIZE D | CODE IDENT. NO. 81400 | DWG. NO. 54670

SCALE 1:2 WT. SHEET 1 OF 1

54670 C



(5) "AIR CYCLING VALVE" SEALS KIT, PART NO. 17329, INCLUDES SEALS IDENTIFIED BY (6) PLUS A TUBE OF HASKEL LUBE, PART NO. 28442.

(3) "AIR DRIVE" SEALS KIT, PART NO. 51545-1, INCLUDES SEALS IDENTIFIED BY (3). SEE SHEET 1 OF 3.

(4) PISTON ASSEMBLIES AND SPOOL ASSEMBLY ARE NON SEPARABLE ASSEMBLIES. SEPARATE PARTS OF THESE ASSEMBLIES ARE NOT OBTAINABLE.

1. LUBRICATE AIR CYCLING VALVE AIR DRIVE BARRELS(1) AND SEALS WITH HASKEL SILICONE LUBE, PART NO. 28442.
2.

Haskel International, Inc.
Industrial Technologies Division
Burbank, California 91502

1. ALL PARTS (1) REQUIRED UNLESS SHOWN IN PARENTHESIS.

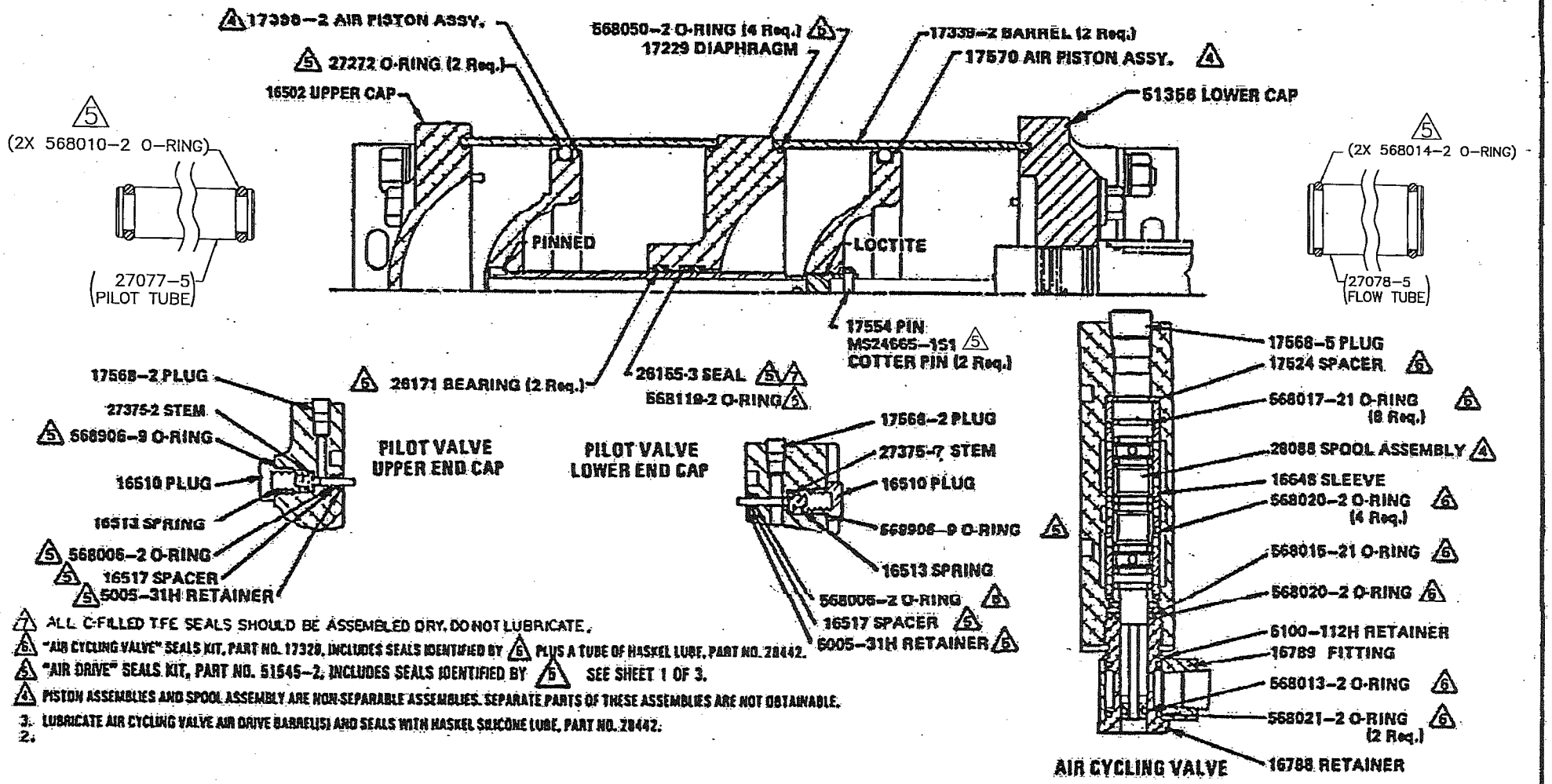
NOTES:

AIR DRIVE

AG-15 AG-30 AG-75

REV	DESCRIPTION	DATE	CHECKED
M	REVISED PER ECO 25767	12/20/04	D.M.

REVISIONS



7 ALL C-FILLED TFE SEALS SHOULD BE ASSEMBLED DRY. DO NOT LUBRICATE.

6 "AIR CYCLING VALVE" SEALS KIT, PART NO. 17328, INCLUDES SEALS IDENTIFIED BY 6 PLUS A TUBE OF HASKEL LUBE, PART NO. 28442.

5 "AIR DRIVE" SEALS KIT, PART NO. 51545-2, INCLUDES SEALS IDENTIFIED BY 5 SEE SHEET 1 OF 3.

4 PISTON ASSEMBLIES AND SPOOL ASSEMBLY ARE NON-SEPARABLE ASSEMBLIES. SEPARATE PARTS OF THESE ASSEMBLIES ARE NOT OBTAINABLE.

3. LUBRICATE AIR CYCLING VALVE AIR DRIVE BARREL(S) AND SEALS WITH HASKEL SILICONE LUBE, PART NO. 28442.

2.

Haskel MILTON ROY

Haskel International, Inc.
Industrial Technologies Division
Burbank, California 91502

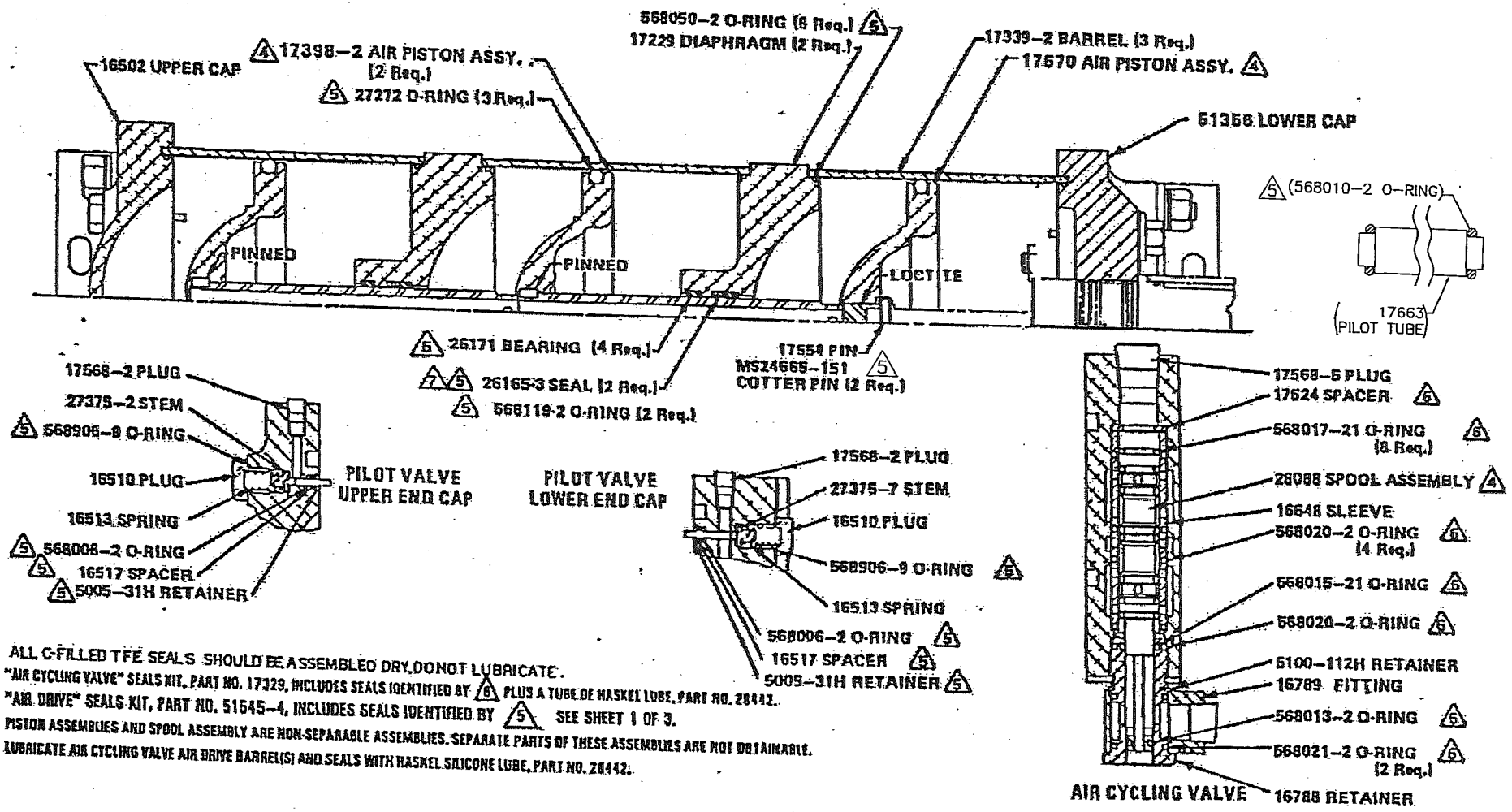
1. ALL PARTS (1) REQUIRED UNLESS SHOWN IN PARENTHESIS.

NOTES:

AIR DRIVE
AG-62 AG-152

REV	DESCRIPTION	DATE	CHECKED
P	REVISED PER ECO 25766	12/20/04	DM

REVISIONS



7. ALL C-FILLED TFE SEALS SHOULD BE ASSEMBLED DRY, DO NOT LUBRICATE.
6. "AIR CYCLING VALVE" SEALS KIT, PART NO. 17329, INCLUDES SEALS IDENTIFIED BY 6 PLUS A TUBE OF HASKEL LUBE, PART NO. 28442.
5. "AIR DRIVE" SEALS KIT, PART NO. 51545–4, INCLUDES SEALS IDENTIFIED BY 5 SEE SHEET 1 OF 3.
4. PISTON ASSEMBLIES AND SPOOL ASSEMBLY ARE NON-SEPARABLE ASSEMBLIES. SEPARATE PARTS OF THESE ASSEMBLIES ARE NOT OBTAINABLE.
3. LUBRICATE AIR CYCLING VALVE AIR DRIVE BARREL(S) AND SEALS WITH HASKEL SILICONE LUBE, PART NO. 28442.
2.

Haskel MILTON ROY

Haskel International, Inc.
Industrial Technologies Division
Burbank, California 91502

1. ALL PARTS (1) REQUIRED UNLESS SHOWN IN PARENTHESIS.

NOTES:

AIR DRIVE
AG–233

REV	DESCRIPTION	DATE	CHECKED
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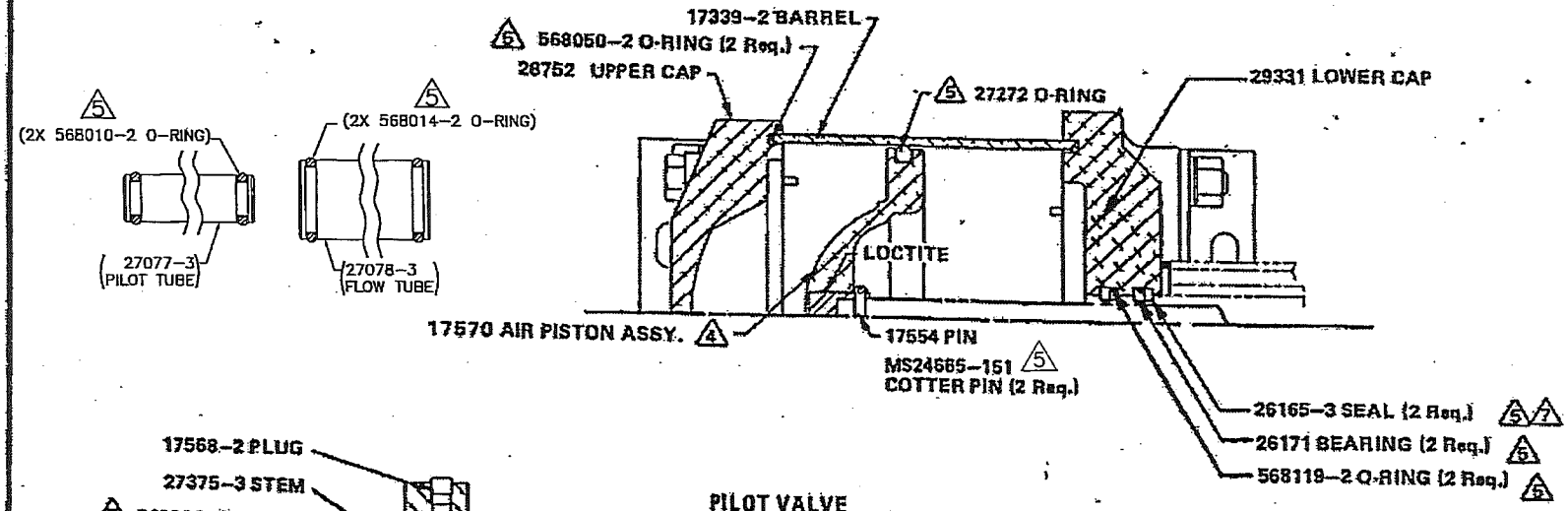
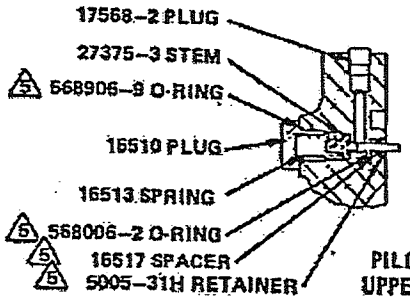
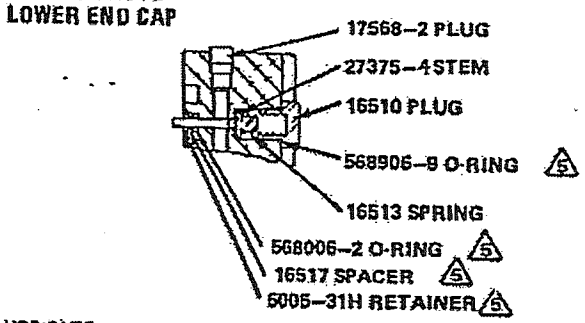
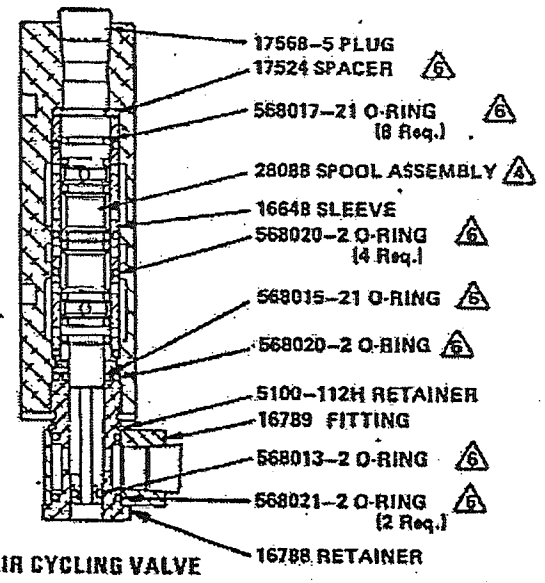
REVISIONS			









7. ALL O-FILLED TFE SEALS SHOULD BE ASSEMBLED DRY. DO NOT LUBRICATE.
6. "AIR CYCLING VALVE" SEALS KIT, PART NO. 17329, INCLUDES SEALS IDENTIFIED BY 6 PLUS A TUBE OF HASKEL LUBE, PART NO. 28442.
5. "AIR DRIVE" SEALS KIT, PART NO. 51545-5, INCLUDES SEALS IDENTIFIED BY 5 . SEE SHEET 1 OF 3.
4. PISTON ASSEMBLIES AND SPOOL ASSEMBLY ARE NON-SEPARABLE ASSEMBLIES. SEPARATE PARTS OF THESE ASSEMBLIES ARE NOT OBTAINABLE.
3. LUBRICATE AIR CYCLING VALVE AIR DRIVE BARREL(S) AND SEALS WITH HASKEL SILICONE LUBE, PART NO. 28442.
2.

Haskel MILTON ROY

Haskel International, Inc.
Industrial Technologies Division
Burbank, California 91502

1. ALL PARTS (1) REQUIRED UNLESS SHOWN IN PARENTHESIS.

NOTES:

AIR DRIVE
AG-7

REV	DESCRIPTION	DATE	CHECKED
E	REVISED PER ECO 25769	12/23/09	[illegible]
	REVISIONS		

ASSEMBLY PROCEDURE FOR GAS PISTON:

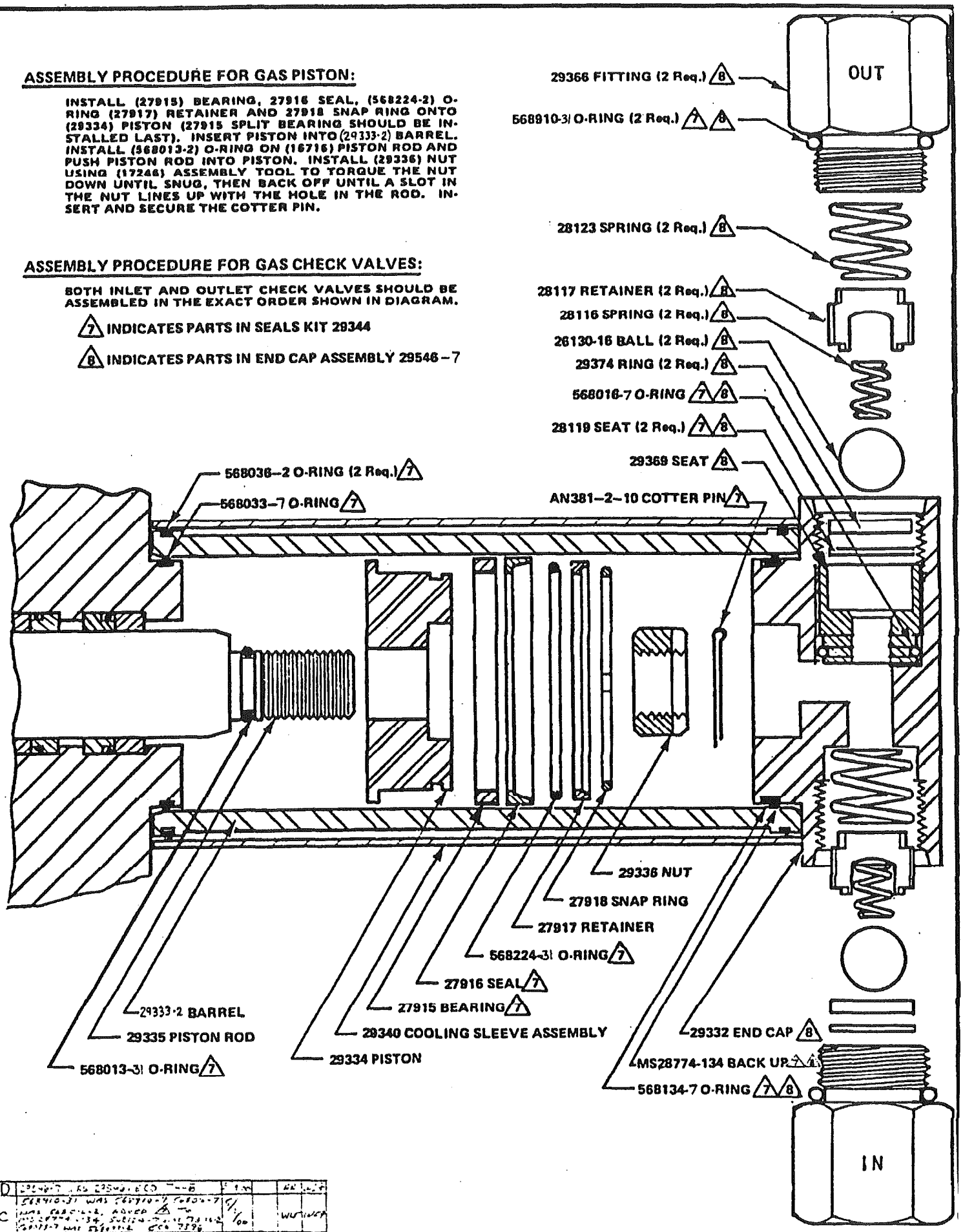
INSTALL (27915) BEARING, 27916 SEAL, (568224-2) O-RING (27917) RETAINER AND 27918 SNAP RING ONTO (29334) PISTON (27915 SPLIT BEARING SHOULD BE INSTALLED LAST). INSERT PISTON INTO (29333-2) BARREL. INSTALL (568013-2) O-RING ON (16716) PISTON ROD AND PUSH PISTON ROD INTO PISTON. INSTALL (29336) NUT USING (17246) ASSEMBLY TOOL TO TORQUE THE NUT DOWN UNTIL SNUG, THEN BACK OFF UNTIL A SLOT IN THE NUT LINES UP WITH THE HOLE IN THE ROD. INSERT AND SECURE THE COTTER PIN.

ASSEMBLY PROCEDURE FOR GAS CHECK VALVES:

BOTH INLET AND OUTLET CHECK VALVES SHOULD BE ASSEMBLED IN THE EXACT ORDER SHOWN IN DIAGRAM.

△7 INDICATES PARTS IN SEALS KIT 29344

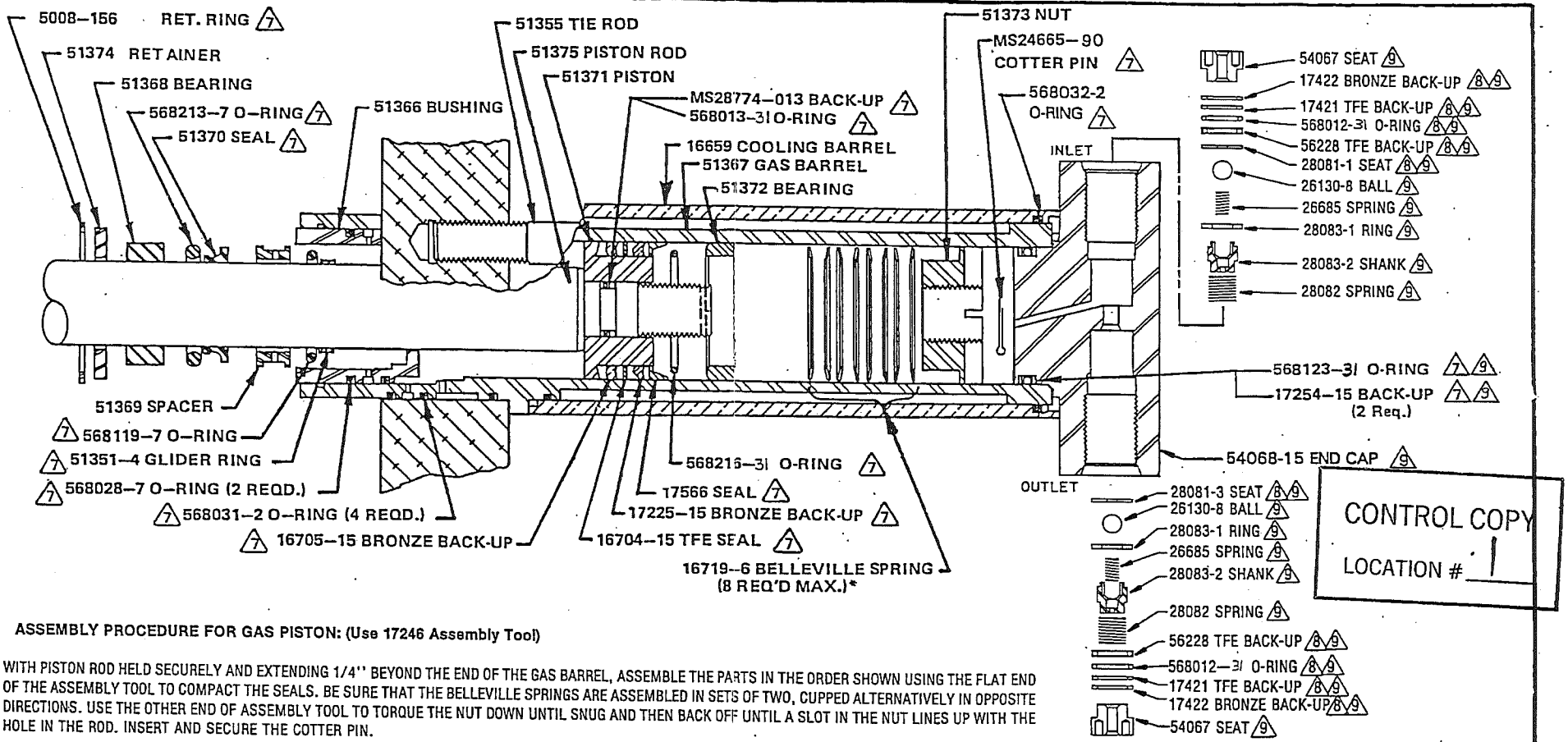
△8 INDICATES PARTS IN END CAP ASSEMBLY 29546-7



REV	DESCRIPTION	DATE	DSR	BY	APPD
D	[illegible]	[illegible]			
C	SERVO-3 WAS SERVO-2 [illegible]	6/00			
B	27333-2 WAS 27333 ECO 5541	10-22-98		PS	
A	568013-3 WAS 568013-2 AND 568224-3 WAS 568224-2 SEE ECN 4411-1	2-9-94	2	JP	

-7 GAS BARREL

Sheet 3 of 3



CONTROL COPY

LOCATION # 1

ASSEMBLY PROCEDURE FOR GAS PISTON: (Use 17246 Assembly Tool)

WITH PISTON ROD HELD SECURELY AND EXTENDING 1/4" BEYOND THE END OF THE GAS BARREL, ASSEMBLE THE PARTS IN THE ORDER SHOWN USING THE FLAT END OF THE ASSEMBLY TOOL TO COMPACT THE SEALS. BE SURE THAT THE BELLEVILLE SPRINGS ARE ASSEMBLED IN SETS OF TWO, CUPPED ALTERNATIVELY IN OPPOSITE DIRECTIONS. USE THE OTHER END OF ASSEMBLY TOOL TO TORQUE THE NUT DOWN UNTIL SNUG AND THEN BACK OFF UNTIL A SLOT IN THE NUT LINES UP WITH THE HOLE IN THE ROD. INSERT AND SECURE THE COTTER PIN.

*NOTE: WHEN PROPERLY TIGHTENED, THE 51373 NUT SHOULD SOLIDLY CONTACT THE 51371 PISTON AND BE APPROXIMATELY FLUSH WITH THE END OF THE 51375 ROD. (IF NECESSARY, USE FEWER 16719—6 SPRINGS TO ACHIEVE THIS.)

ASSEMBLY PROCEDURE FOR GAS CHECK VALVES: (Use 16675 Assembly Tool)

1. PLACE OUTLET PORT IN THE UPRIGHT POSITION. INSERT SEAT, BALL, RING , SMALL SPRING, SHANK AND LARGE SPRING UNTIL SEATED PROPERLY. IT IS IMPORTANT THAT THESE PARTS ARE IN PROPER POSITION BEFORE CONTINUING. SLIDE ONE SET OF PACKINGS (BRONZE, THIN TFE BACK-UP, O-RING, THICK TFE BACK-UP) IN THE ORDER SHOWN ONTO SEAT FITTING THE THICK TFE BACK-UP WILL PROVIDE SUFFICIENT GRIP TO RETAIN THE PACKINGS DURING INSERTION. THEN, USING ASSEMBLY TOOL, SCREW SEAT IN UNTIL IT IS SNUG (APPROXIMATELY 5/8" BELOW END CAP FACE). USING A THIN ROD, DEPRESS BALL THROUGH INLET PORT TO VERIFY PROPER MOVEMENT.

2. PLACE INLET PORT IN UPRIGHT POSITION. INSERT LARGE SPRING, SHANK, RING, SMALL SPRING, BALL AND SEAT INTO PORT UNTIL SEATED. IT IS IMPORTANT THAT THE PARTS ARE IN PROPER POSITION BEFORE CONTINUING. SLIDE ONE SET OF PACKINGS (BRONZE, THIN TFE BACK-UP, O-RING, THICK TFE BACK-UP) IN THE ORDER SHOWN ONTO SEAT FITTING. THE THICK TFE BACK-UP WILL PROVIDE SUFFICIENT GRIP TO RETAIN THE PACKINGS DURING INSERTION. THEN, USING THE ASSEMBLY TOOL, SCREW THE SEAT IN UNTIL IT IS SNUG (APPROXIMATELY 5/8" BELOW END FACE). CHECK THAT THE BALL IS FREE TO MOVE BY DEPRESSING IT WITH A THIN ROD FROM THE INLET END.

(7) INDICATES PARTS IN SEALS KIT 51544—15

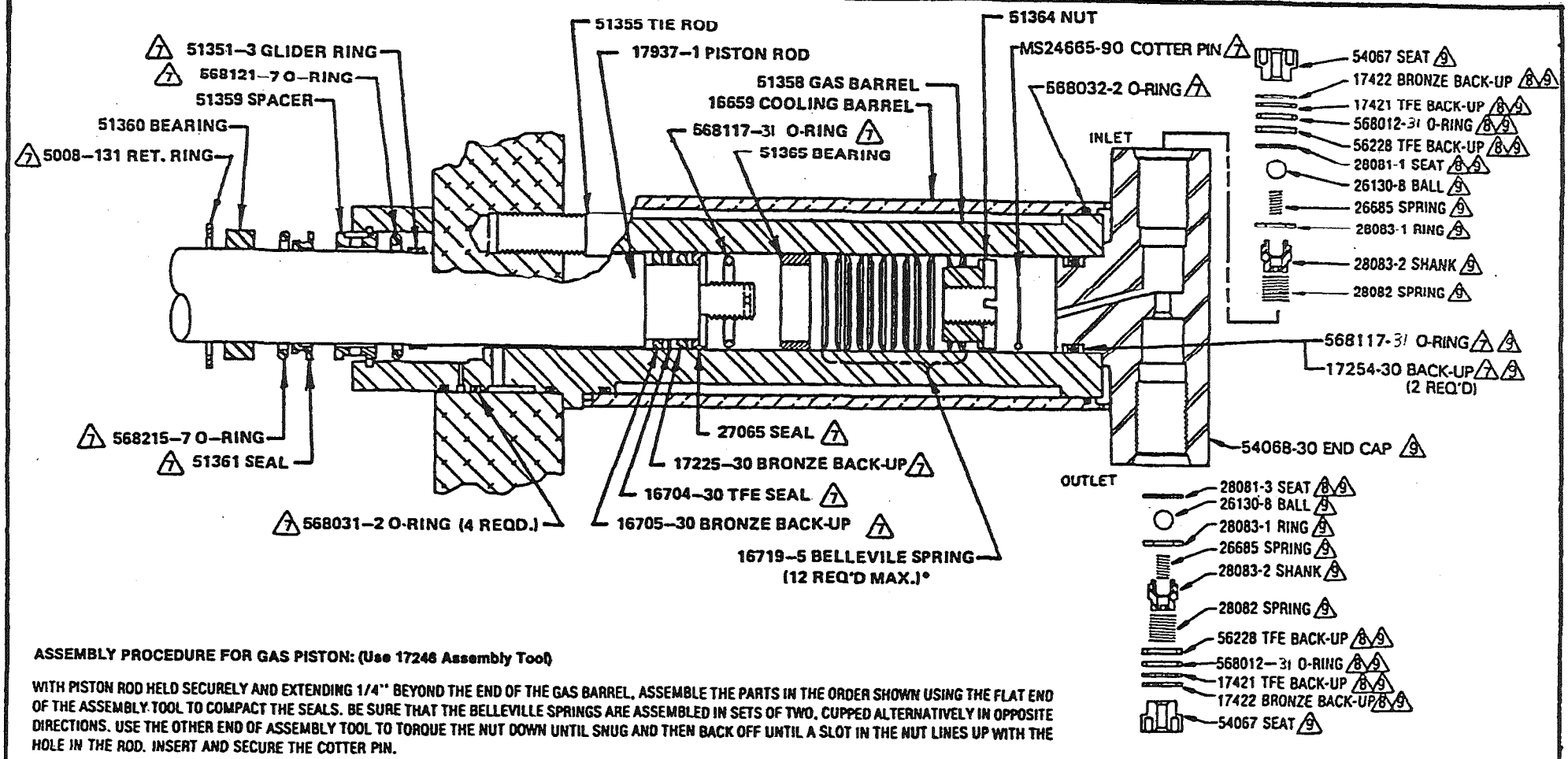
(8) INDICATES PARTS IN SEALS KIT 17325

(9) INDICATES PARTS IN END CAP ASSEMBLY 53632-15

REV	DESCRIPTION	DATE	DISP	BY	APPD
N	REMOVED DASH NUMBER FROM 17325. ECO 7354.	5/23/00		AA	WLF
M	REMOVED 568123-31 & 17254-15 FROM 17325-15 SEAL KIT. ECO 6156	2/12/97	2	WLF	WLF
L	568012-31 WAS 568512-22. 568123-31 WAS 568123-22. ECO 5455.	6/24/98	2	WLF	WLF
K	568216-31 WAS 568216-22 AND 568013-31 WAS 568013-21 SEE ECN 1466-6	2-9-94	2	JP	BV

SHEET 3 OF 3

—15 GAS BARREL



ASSEMBLY PROCEDURE FOR GAS PISTON: (Use 17246 Assembly Tool)

WITH PISTON ROD HELD SECURELY AND EXTENDING 1/4" BEYOND THE END OF THE GAS BARREL, ASSEMBLE THE PARTS IN THE ORDER SHOWN USING THE FLAT END OF THE ASSEMBLY TOOL TO COMPACT THE SEALS. BE SURE THAT THE BELLEVILLE SPRINGS ARE ASSEMBLED IN SETS OF TWO, CUPPED ALTERNATIVELY IN OPPOSITE DIRECTIONS. USE THE OTHER END OF ASSEMBLY TOOL TO TORQUE THE NUT DOWN UNTIL SNUG AND THEN BACK OFF UNTIL A SLOT IN THE NUT LINES UP WITH THE HOLE IN THE ROD. INSERT AND SECURE THE COTTER PIN.

*NOTE: WHEN PROPERLY TIGHTENED, THE 51364 NUT SHOULD SOLIDLY CONTACT THE 17937–1 ROD SHOULDER AND BE APPROXIMATELY FLUSH WITH THE ROD END. (IF NECESSARY, USE FEWER 16719–5 SPRINGS TO ACHIEVE THIS.)

ASSEMBLY PROCEDURE FOR GAS CHECK VALVES: (Use 16675 Assembly Tool)

1. PLACE OUTLET PORT IN THE UPRIGHT POSITION. INSERT SEAT, BALL, RING , SMALL SPRING, SHANK AND LARGE SPRING UNTIL SEATED PROPERLY. IT IS IMPORTANT THAT THESE PARTS ARE IN PROPER POSITION BEFORE CONTINUING. SLIDE ONE SET OF PACKINGS (BRONZE, THIN TFE BACK-UP, O-RING, THICK TFE BACK-UP) IN THE ORDER SHOWN ONTO SEAT FITTING THE THICK TFE BACK-UP WILL PROVIDE SUFFICIENT GRIP TO RETAIN THE PACKINGS DURING INSERTION. THEN, USING ASSEMBLY TOOL, SCREW SEAT IN UNTIL IT IS SNUG (APPROXIMATELY 5/8" BELOW END CAP FACE). USING A THIN ROD, DEPRESS BALL THROUGH INLET PORT TO VERIFY PROPER MOVEMENT.

2. PLACE INLET PORT IN UPRIGHT POSITION. INSERT LARGE SPRING, SHANK, RING, SMALL SPRING, BALL AND SEAT INTO PORT UNTIL SEATED. IT IS IMPORTANT THAT THE PARTS ARE IN PROPER POSITION BEFORE CONTINUING. SLIDE ONE SET OF PACKINGS (BRONZE, THIN TFE BACK-UP, O-RING, THICK TFE BACK-UP) IN THE ORDER SHOWN ONTO SEAT FITTING. THE THICK TFE BACK-UP WILL PROVIDE SUFFICIENT GRIP TO RETAIN THE PACKINGS DURING INSERTION. THEN, USING THE ASSEMBLY TOOL, SCREW THE SEAT IN UNTIL IT IS SNUG (APPROXIMATELY 5/8" BELOW END FACE). CHECK THAT THE BALL IS FREE TO MOVE BY DEPRESSING IT WITH A THIN ROD FROM THE INLET END.

8 INDICATES PARTS IN SEALS KIT 17325

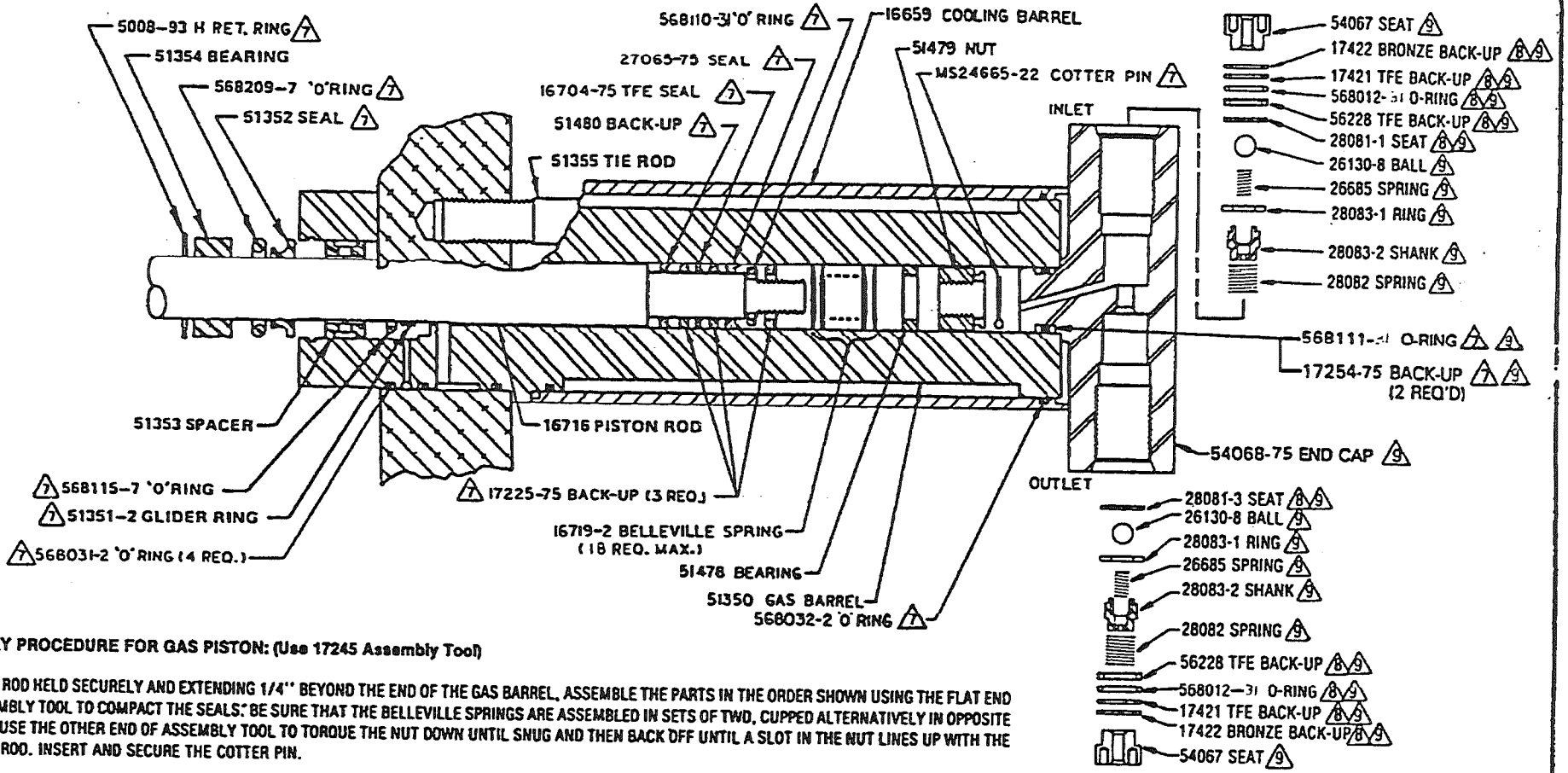
7 INDICATES PARTS IN SEALS KIT 51544–30

9 INDICATES PARTS IN END CAP ASSEMBLY 53632-30

REV	DESCRIPTION	DATE	DISP	BY	APPD
P	REMOVED (ASH WIPER FROM 17325 ECO 7356	7/26/00		MM	
N	REMOVED SEALS -31 & 17254-30 FROM 17325-30 SEAL KIT. ECO 6156	5/14/99	2	WLF	
M	568012-31 WAS 568012-22. 568117-31 WAS 568117-22. ECO 5485-1.	6/14/98	2	WLF	
L	568117-31 WAS 568117-22 SEE ECN 1966-3	2-9-98	2	JF	

SHEET 3 OF 3

—30 GAS BARREL



ASSEMBLY PROCEDURE FOR GAS PISTON: (Use 17245 Assembly Tool)

WITH PISTON ROD HELD SECURELY AND EXTENDING 1/4" BEYOND THE END OF THE GAS BARREL, ASSEMBLE THE PARTS IN THE ORDER SHOWN USING THE FLAT END OF THE ASSEMBLY TOOL TO COMPACT THE SEALS. BE SURE THAT THE BELLEVILLE SPRINGS ARE ASSEMBLED IN SETS OF TWO, CUPPED ALTERNATIVELY IN OPPOSITE DIRECTIONS. USE THE OTHER END OF ASSEMBLY TOOL TO TORQUE THE NUT DOWN UNTIL SNUG AND THEN BACK OFF UNTIL A SLOT IN THE NUT LINES UP WITH THE HOLE IN THE ROD. INSERT AND SECURE THE COTTER PIN.

*CAUTION: MAKE SURE NUT (51479) SURFACE DOES NOT PROTRUDE BEYOND END OF ROD (16716). THIS CAN BE ACHIEVED BY USING FEWER NUMBER OF BELLEVILLE SPRINGS(16719—2) IF NECESSARY.

ASSEMBLY PROCEDURE FOR GAS CHECK VALVES: (Use 16675 Assembly Tool)

1. PLACE OUTLET PORT IN THE UPRIGHT POSITION. INSERT SEAT, BALL, RING , SMALL SPRING, SHANK AND LARGE SPRING UNTIL SEATED PROPERLY. IT IS IMPORTANT THAT THESE PARTS ARE IN PROPER POSITION BEFORE CONTINUING. SLIDE ONE SET OF PACKINGS (BRONZE, THIN TFE BACK-UP, O-RING, THICK TFE BACK-UP) IN THE ORDER SHOWN ONTO SEAT FITTING THE THICK TFE BACK-UP WILL PROVIDE SUFFICIENT GRIP TO RETAIN THE PACKINGS DURING INSERTION. THEN, USING ASSEMBLY TOOL, SCREW SEAT IN UNTIL IT IS SNUG (APPROXIMATELY 5/8" BELOW END CAP FACE). USING A THIN ROD, DEPRESS BALL THROUGH INLET PORT TO VERIFY PROPER MOVEMENT.

2. PLACE INLET PORT IN UPRIGHT POSITION. INSERT LARGE SPRING, SHANK, RING, SMALL SPRING, BALL AND SEAT INTO PORT UNTIL SEATED. IT IS IMPORTANT THAT THE PARTS ARE IN PROPER POSITION BEFORE CONTINUING. SLIDE ONE SET OF PACKINGS (BRONZE, THIN TFE BACK-UP, O-RING, THICK TFE BACK-UP) IN THE ORDER SHOWN ONTO SEAT FITTING. THE THICK TFE BACK-UP WILL PROVIDE SUFFICIENT GRIP TO RETAIN THE PACKINGS DURING INSERTION. THEN, USING THE ASSEMBLY TOOL, SCREW THE SEAT IN UNTIL IT IS SNUG (APPROXIMATELY 5/8" BELOW END FACE). CHECK THAT THE BALL IS FREE TO MOVE BY DEPRESSING IT WITH A THIN ROD FROM THE INLET END.

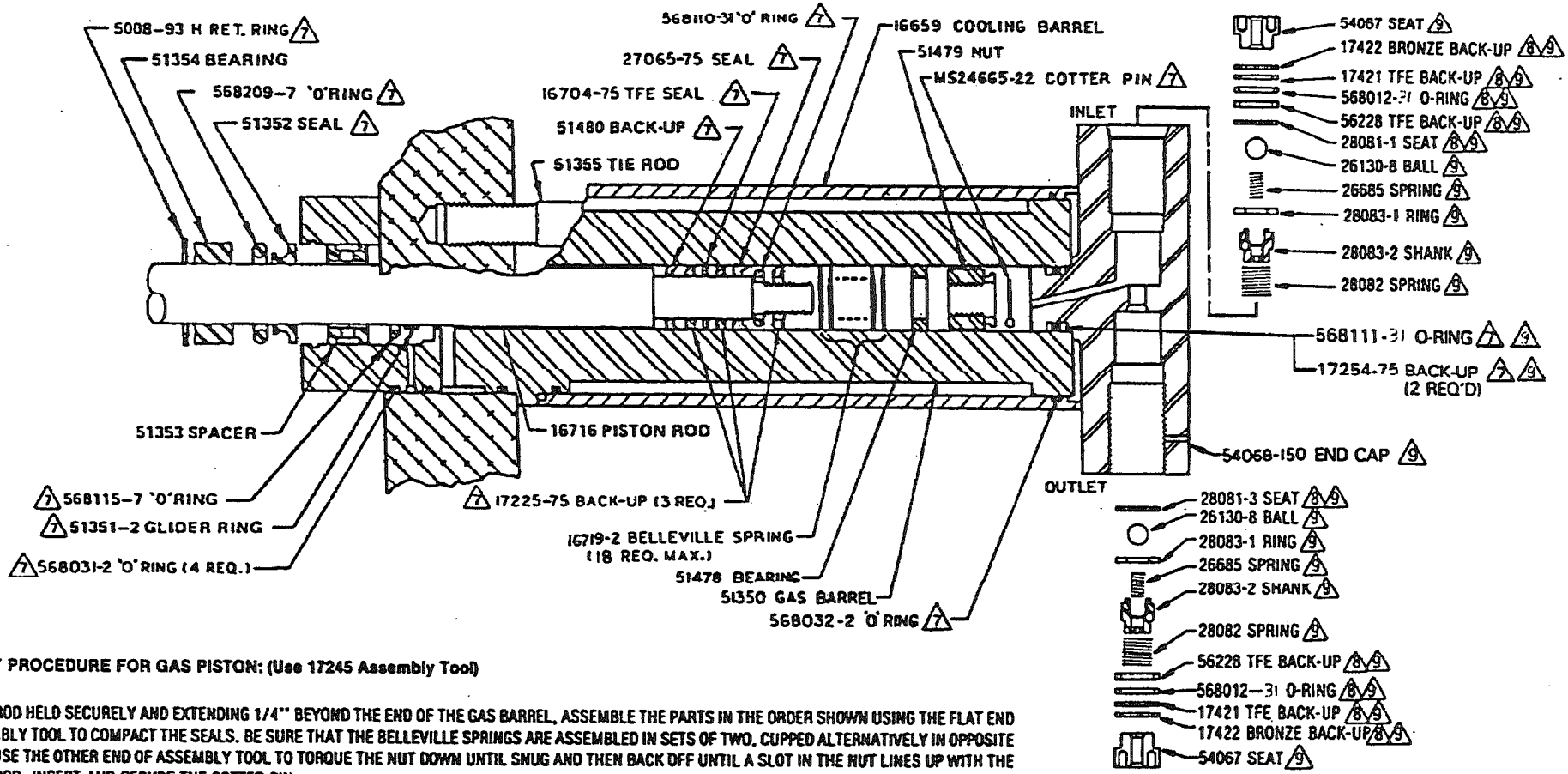
(7) INDICATES PARTS IN SEALS KIT 55031-75

(8) INDICATES PARTS IN SEALS KIT 17325

(9) INDICATES PARTS IN END CAP ASSEMBLY 53632-75

REV	DESCRIPTION	DATE	DISP	BY	APPD
M	REMOVED DASH NUMBER FROM [illegible]	[illegible]		[illegible]	[illegible]
L	REMOVED [illegible]	[illegible]	2	[illegible]	[illegible]
K	568111-31 WAS [illegible]	[illegible]	3	[illegible]	[illegible]
J	568110-31 WAS 568110-7 SEE ECN 1466-4	2-9-94	2	JP	[illegible]
H	16719-2 WAS QTY 24 SEE ECN 1459-2	1-7-94	2	JP	[illegible]

—75 GAS BARREL



ASSEMBLY PROCEDURE FOR GAS PISTON: (Use 17245 Assembly Tool)

WITH PISTON ROD HELD SECURELY AND EXTENDING 1/4" BEYOND THE END OF THE GAS BARREL, ASSEMBLE THE PARTS IN THE ORDER SHOWN USING THE FLAT END OF THE ASSEMBLY TOOL TO COMPACT THE SEALS. BE SURE THAT THE BELLEVILLE SPRINGS ARE ASSEMBLED IN SETS OF TWO, CUPPED ALTERNATIVELY IN OPPOSITE DIRECTIONS. USE THE OTHER END OF ASSEMBLY TOOL TO TORQUE THE NUT DOWN UNTIL SNUG AND THEN BACK OFF UNTIL A SLOT IN THE NUT LINES UP WITH THE HOLE IN THE ROD. INSERT AND SECURE THE COTTER PIN.

*CAUTION: MAKE SURE NUT (51479) SURFACE DOES NOT PROTRUDE BEYOND END OF ROD (16716). THIS CAN BE ACHIEVED BY USING FEWER NUMBER OF BELLEVILLE SPRINGS(16719—2) IF NECESSARY.

ASSEMBLY PROCEDURE FOR GAS CHECK VALVES: (Use 16575 Assembly Tool)

1. PLACE OUTLET PORT IN THE UPRIGHT POSITION. INSERT SEAT, BALL, RING , SMALL SPRING, SHANK AND LARGE SPRING UNTIL SEATED PROPERLY. IT IS IMPORTANT THAT THESE PARTS ARE IN PROPER POSITION BEFORE CONTINUING. SLIDE ONE SET OF PACKINGS (BRONZE, THIN TFE BACK-UP, O-RING, THICK TFE BACK-UP) IN THE ORDER SHOWN ONTO SEAT FITTING THE THICK TFE BACK-UP WILL PROVIDE SUFFICIENT GRIP TO RETAIN THE PACKINGS DURING INSERTION. THEN, USING ASSEMBLY TOOL, SCREW SEAT IN UNTIL IT IS SNUG (APPROXIMATELY 5/8" BELOW END CAP FACE). USING A THIN ROD, DEPRESS BALL THROUGH INLET PORT TO VERIFY PROPER MOVEMENT.

2. PLACE INLET PORT IN UPRIGHT POSITION. INSERT LARGE SPRING, SHANK, RING, SMALL SPRING, BALL AND SEAT INTO PORT UNTIL SEATED. IT IS IMPORTANT THAT THE PARTS ARE IN PROPER POSITION BEFORE CONTINUING. SLIDE ONE SET OF PACKINGS (BRONZE, THIN TFE BACK-UP, O-RING, THICK TFE BACK-UP) IN THE ORDER SHOWN ONTO SEAT FITTING. THE THICK TFE BACK-UP WILL PROVIDE SUFFICIENT GRIP TO RETAIN THE PACKINGS DURING INSERTION. THEN, USING THE ASSEMBLY TOOL, SCREW THE SEAT IN UNTIL IT IS SNUG (APPROXIMATELY 5/8" BELOW END FACE). CHECK THAT THE BALL IS FREE TO MOVE BY DEPRESSING IT WITH A THIN ROD FROM THE INLET END.

(7) INDICATES PARTS IN SEALS KIT 55031-75

(8) INDICATES PARTS IN SEALS KIT 17325

(9) INDICATES PARTS IN END CAP ASSEMBLY 53632-150

REV	DESCRIPTION	DATE	USE	BY	APPD
N	REMOVED DASH NUMBER FROM 17325. ECO 7359	7-22-96		AA	
M	REMOVED 568111-3 [illegible] 17325-75 [illegible] ECO 6154.	7-22-96	2	WH	
L	568111-31 WAS 568111-27, 568012-31 WAS 568012-27 [illegible]	7-22-96	2	WLF	
K	16719-2 QTY 18 WAS 24 SEE ECO	7-22-96		JF	
J	568110-31 WAS 568110-7 SEE ECN 1466-5	2-29-96	2	JF	

SHEET 3 OF 3

—152 GAS BARREL

SKIS-008 | A

Haskel MILTON ROY

SEAL KIT INSTRUCTION SHEET

100 E. Graham Place

Burbank, CA 91502 U.S.A.

INSTALLATION OF SEALS, BEARINGS, AND RELATED PARTS IN THE PUMPING SECTION OF THE -4 AND -5 FAMILY OF 5-3/4" DRIVE LIQUID PUMPS, AIR AMPLIFIERS AND GAS BOOSTERS.

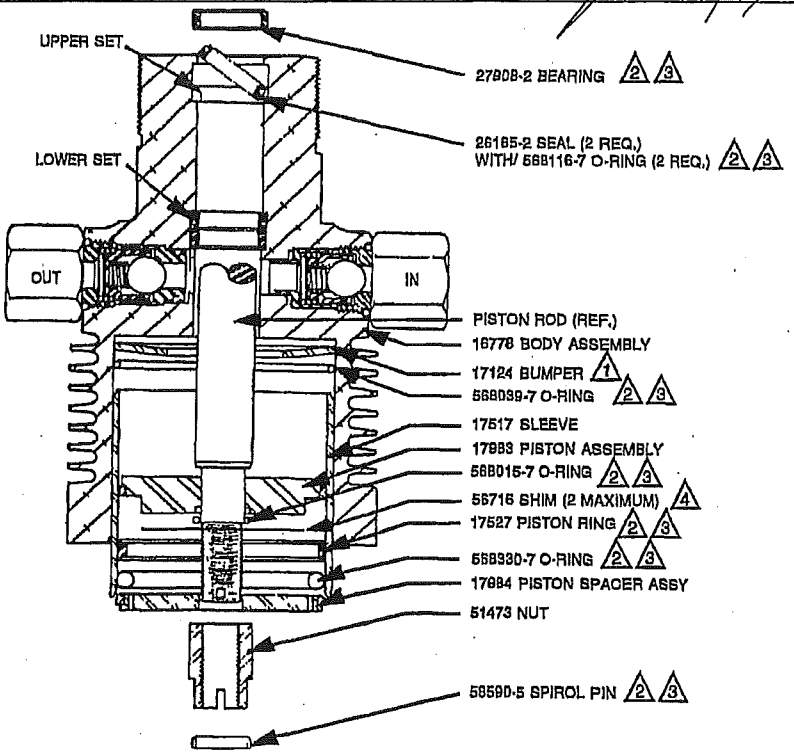
REV	DESCRIPTION	BY	APPD	DATE
A	REVISED PER ECO 25686	PS	JR	11/11/04

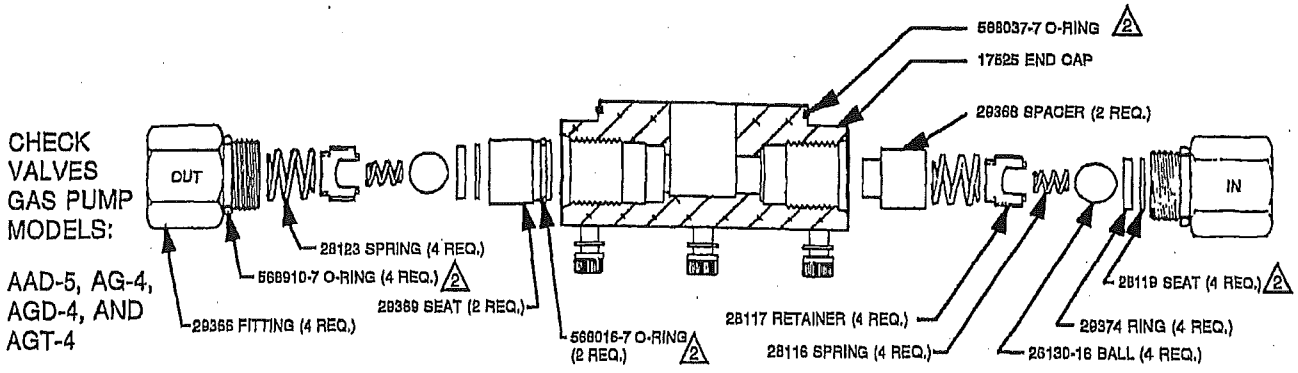
INSTRUCTIONS:

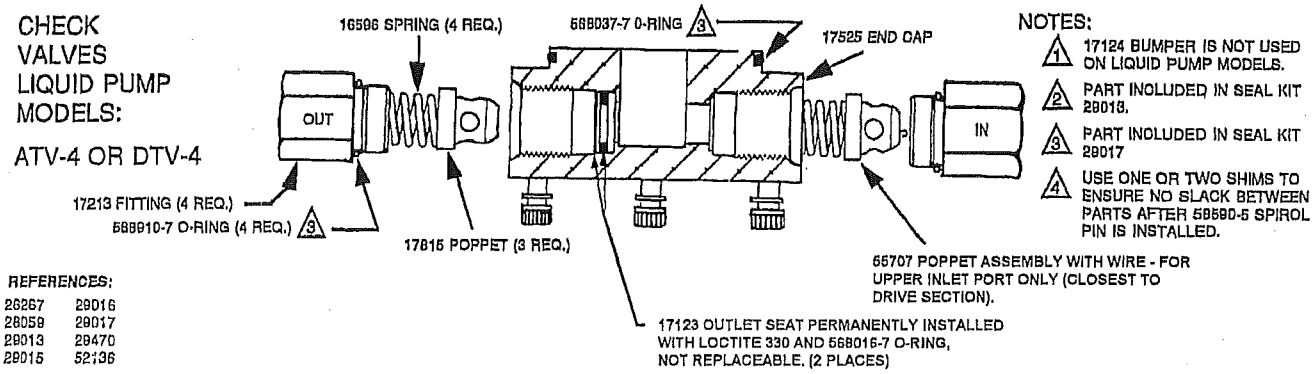
To install upper and lower sets of rod seals and bearings: Fit 568116-7 o-rings firmly around 26165-2 seals. Tilt seals into 16768 body as shown, so o-ring will face bearing. Squeeze 27908 bearing so that ends overlap. Insert into 16778 body and allow to expand into cavity. Insert piston rod thru bearing section with rod insertion tool 56198.

To assemble the high pressure section put the cupped 17124 piston bumper in the pump body with the concave side facing in. Place the o-ring behind the bumper and install the 17517 sleeve. Put the piston rod in approximately the position shown and push the 17983 piston assembly over the rod until it is seated against the shoulder. Place the 568015-7 o-ring over the rod into the counterbore of the piston assembly. Slide the 17527 piston ring into the bore so it is in full contact with the piston assembly. Press the 568330-7 o-ring between the piston ring and the recess in the piston assembly. Put the 17984 spacer assembly in place and screw the nut down until *snug.* Back the nut off to the nearest hole and tap in the spirol pin flush with nut.

NOTE: Install all parts dry. Do not use lubrication of any kind..







NOTES:

1. 17124 BUMPER IS NOT USED ON LIQUID PUMP MODELS.
2. PART INCLUDED IN SEAL KIT 29018.
3. PART INCLUDED IN SEAL KIT 29017
4. USE ONE OR TWO SHIMS TO ENSURE NO SLACK BETWEEN PARTS AFTER 56590-5 SPIROL PIN IS INSTALLED.

REFERENCES:

26267	29016
28059	29017
29013	29470
29015	52136

GS-50

NOTES:

ASSEMBLY PROCEDURE FOR GAS PISTON: (USE 86859 ASSEMBLY TOOL)

WITH PISTON ROD HELD SECURELY AND EXTENDING 1/4" BEYOND THE END OF THE GAS BARREL, ASSEMBLE THE PARTS IN THE ORDER SHOWN USING THE FLAT END OF THE ASSEMBLY TOOL TO COMPACT THE SEALS. BE SURE THAT THE BELLEVILLE SPRINGS ARE ASSEMBLED IN SETS OF TWO, CUPPED ALTERNATIVELY IN OPPOSITE DIRECTIONS. USE THE OTHER END OF THE ASSEMBLY TOOL TO TORQUE THE NUT DOWN UNTIL SNUG AND THEN BACK OFF UNTIL A SLOT IN THE NUT LINES UP WITH THE HOLE IN THE ROD. INSERT AND SECURE THE COTTER PIN.

* CAUTION: MAKE SURE NUT (86439) SURFACE DOES NOT PROTRUDE BEYOND END OF ROD (86437). THIS CAN BE ACHIEVED BY USING FEWER NUMBER OF BELLEVILLE SPRINGS (16719-13) IF NECESSARY.

ASSEMBLY PROCEDURE FOR GAS CHECK VALVES: (USE 16675 ASSEMBLY TOOL)

1. PLACE OUTLET PORT IN THE UPRIGHT POSITION. INSERT SEAT, BALL, RING, SMALL SPRING, SHANK, AND LARGE SPRING UNTIL SEATED PROPERLY. IT IS IMPORTANT THAT THESE PARTS ARE IN PROPER POSITION BEFORE CONTINUING. SLIDE ONE SET OF PACKINGS (BRONZE, THIN TFE BACK-UP, O-RING, THICK TFE BACK-UP) IN THE ORDER SHOWN ONTO SEAT FITTING. THE THICK TFE BACK-UP WILL PROVIDE SUFFICIENT GRIP TO RETAIN THE PACKINGS DURING INSERTION. THEN, USING ASSEMBLY TOOL, SCREW SEAT IN UNTIL IT IS SNUG (APPROXIMATELY 5/8" BELOW END CAP FACE △A). USING A THIN ROD, DEPRESS BALL THROUGH INLET PORT TO VERIFY PROPER MOVEMENT.

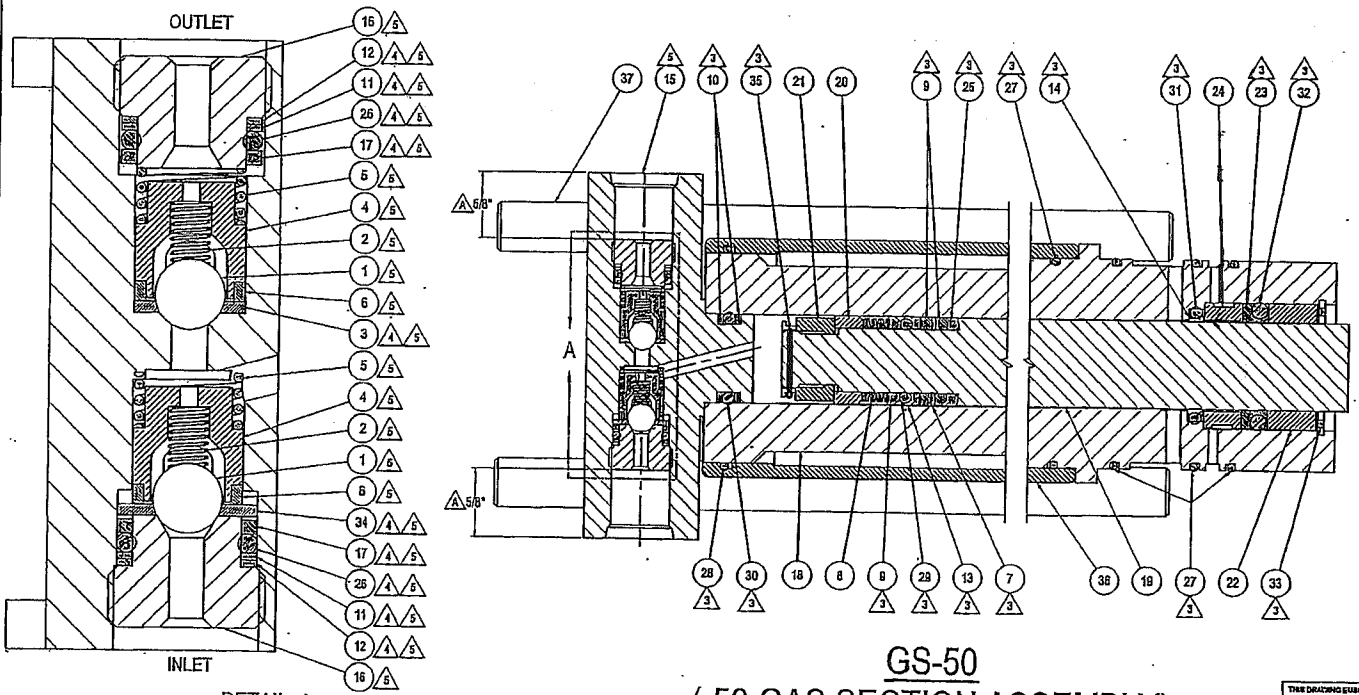
2. PLACE INLET PORT IN UPRIGHT POSITION. INSERT LARGE SPRING, SHANK, RING, SMALL SPRING, BALL AND SEAT INTO PORT UNTIL SEATED. IT IS IMPORTANT THAT THE PARTS ARE IN PROPER POSITION BEFORE CONTINUING. SLIDE ONE SET OF PACKINGS (BRONZE, THIN TFE BACK-UP, O-RING, THICK TFE BACK-UP) IN THE ORDER SHOWN ONTO SEAT FITTING. THE THICK TFE BACK-UP WILL PROVIDE SUFFICIENT GRIP TO RETAIN THE PACKINGS DURING INSERTION. THEN, USING THE ASSEMBLY TOOL, SCREW THE SEAT IN UNTIL IT IS SNUG (APPROXIMATELY 5/8" BELOW END FACE △A). CHECK THAT THE BALL IS FREE TO MOVE BY DEPRESSING IT WITH A THIN ROD FROM THE INLET END.

△3 INDICATES PARTS IN SEAL KIT 86468

△4 INDICATES PARTS IN SEAL KIT 17325

△5 INDICATES PARTS IN END CAP ASSEMBLY 86469

REVISION			
REV	DESCRIPTION	DATE	CHECKED
D	REVISED PER ECO 27781	9/19/07	DL



GS-50
(-50 GAS SECTION ASSEMBLY)

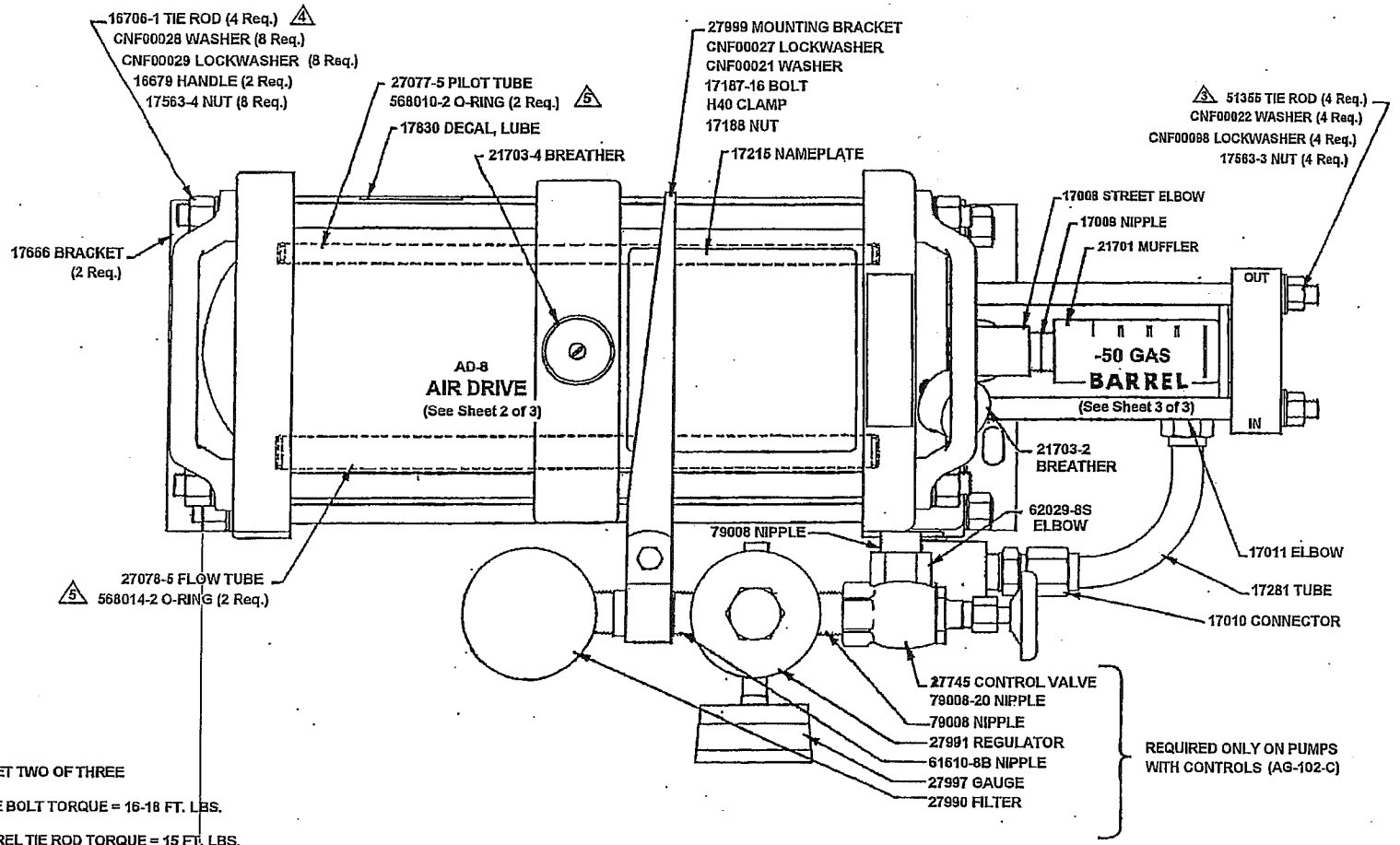
GS-50 ASSEMBLY

ITEM	PART NUMBER	DESCRIPTION	MATERIAL	QTY
1	26130-8	BALL	316 SS	2
2	26685	SPRING	316 SS	2
3	28081-3	SEAT	VIRGIN TEFLON	1
4	28083-2	SHANK	316 SS	2
5	28082	SPRING	316 SS	2
6	28083-1	RING	316 SS	2
7	16704-50	SEAL, TEFLON	TEFLON	1
8	16719-13	SPRING WASHER, BELLEVILLE	17-7PH SS	8
9	17225-50	BACKUP	BRONZE, SOFT TIN	3
10	17264-50	BACKUP	CARBON FILLED TEFLON	2
11	17421	BACKUP RING	PTFE	2
12	17422	BACK-UP	ALUM BRONZE	2
13	27065-50	SEAL	CARBON FILLED TEFLON	1
14	51351-5	GLIDER RING	CARBON FILLED TEFLON	1
15	54068-50	END CAP, AG50	300 SERIES SS	1
16	54067	RETAINER	316 SS	2
17	56228	BACKUP RING	PTFE	2
18	86436	GAS BARREL, -50	15-5 SS	1
19	86437	PISTON ROD, GS-50	15-5 PH (H925)	1
20	86438	BEARING-PISTON	RYTON 1834	1
21	86439	NUT, PISTON ROD	303 S.S.	1
22	86440	BEARING, AG-50	RYTON 134	1
23	86441	ROD SEAL, AG-50	CARBON FILLED TEFLON	1
24	86442	SPACER, AG-50	300 SERIES SS	1
25	86443	BACK-UP, SEAL	ALUM BRONZE	1
26	568012-31	O-RING	VITON	2
27	568031-2	O-RING	BUNA-N	4
28	568032-2	O-RING	BUNA-N	1
29	568113-31	O-RING	VITON	1
30	568114-7	O-RING	VITON	1
31	568117-7	O-RING	VITON	1
32	568212-7	O-RING	VITON	1
33	5008-112H	RETAINING RING	300 SERIES SS	1
34	28081-1	SEAT	TEFLON	1
35	MS24665-24	COTTER PIN	STAINLESS STEEL	1
36	16559	COOLING BARREL	6061-T6 AL	1
37	51355	TIE ROD	AISI 4140	4

SECONDARY (REF ONLY)		Haskel International, Inc. Burbank, California 91502
APPROVALS	DATE	TITLE: GS-50, GAS SECTION ASSEMBLY
DRAWN B.MACK	05/08/03	
CHECKED P.SPEED	05/08/03	
APPROVED S.D.	05/08/03	SIZE D; CAGE CODE 81400; DWG NO. GS-50; REV D
CAD FILE NAME GS-50		SCALE:NONE; INVENTOR DRAWING; SHEET 1 OF 1

Haskel
MILTON ROY

REVISIONS				
REV	DESCRIPTION	DATE	BY	CHKD
A	IPR ECO.26952	8/28/06	DJC	



5. SEE SHEET TWO OF THREE
4. AIR DRIVE BOLT TORQUE = 16-18 FT. LBS.
3. GAS BARREL TIE ROD TORQUE = 15 FT. LBS.
2. FOR INSTALLATION DIMENSIONS SEE DWG. 17272
1. ALL PARTS (1) REQ. UNLESS SHOWN IN PARENTHESES..

NOTES:

INSTALLATION

PARTS LIST
AG-102

86811

86811

SEAL KIT INSTRUCTION SHEET

SUBJECT:
SEAL REPLACEMENT FOR PILOT VALVES AND DRIVE BARREL(S), 5-3/4", 6", 8", AND 14" AIR DRIVES.

INSTRUCTIONS:
For access to these seals, the four main air drive tie-rods are removed allowing the drive barrel(s) and end caps to be pulled apart.

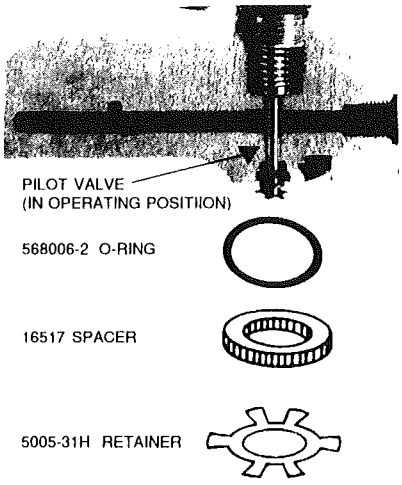
PILOT CONTROL VALVES, (ONE LOCATED IN BOTH UPPER AND LOWER AIR CAPS)

1. Inspect pilot valve stem and rubber seat. Replace if bent or scratched or if seat is damaged.

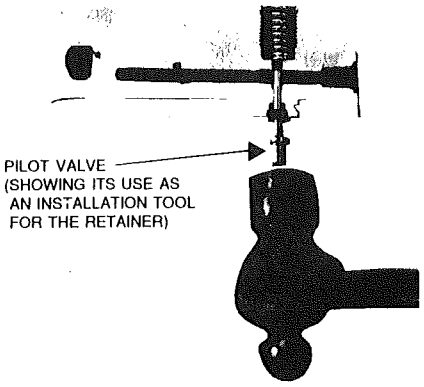
   CAUTION: Pilot Valve in upper and lower cap may not be interchangeable - check parts list drawing.

2. Pry old retainer out with small screw driver. Discard all

3. Install three new parts in the order shown after lightly coating with Haskel o-ring lubricant.



NOTE: Care must be taken in installing the retainer to be certain it is concentric - with legs equally deflected. Use the pilot stem valve as a centering and seating tool. Place the rubber valve face against the retainer and hit the top of the valve sharply with a light hammer.



DRIVE SECTION AIR BARREL(S) AND DRIVE PISTON(S)

1. Discard old seals and clean barrel(s) and metal parts (use a solvent compatible with buna rubber.

2. Install new piston, air barrel and flow tube/pilot tube o-rings (refer to assembly drawing for the unit in original manual). Lightly coat all o-rings with Haskel o-ring lubricant.

3. Install four main tie-rods and cross-tighten to torque values shown on unit assembly drawing.

REFERENCES:

16772	27446	29412	54231
16773	27924	50105	54251
17705	28426	50168	54252
17817	28511	50183	55437
17838	28611	51215	55438
26932	28612	51545	55439
16941	29343	51675	55442
26971	29397	52919	55827
27369	29411	53509	56485

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Haskel MILTON ROY

SKIS-002
REV.:

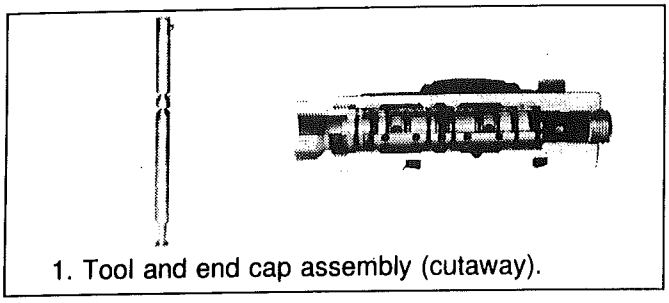
SEAL KIT INSTRUCTION SHEET

SUBJECT:
SEAL REPLACEMENT FOR CYCLING VALVE SPOOL AND VALVE SLEEVE, 5-3/4" AIR DRIVES

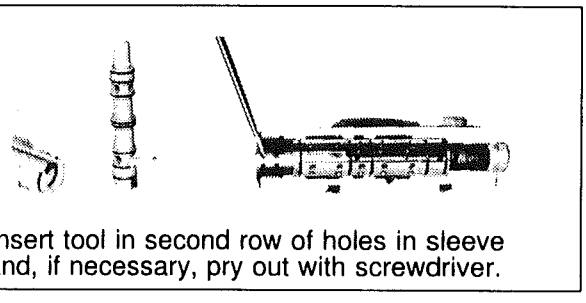
INSTRUCTIONS:
Recommended tool: P/N 28584 extractor (or 1/8" BRASS rod with tip bent into 90° hook).

TO REMOVE THE PARTS:

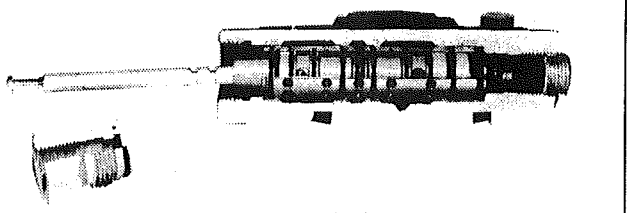
1. Remove all external part(s) from air exhaust port.
2. Remove spool, sleeve and bumper (rubber faced spacer at inside end of sleeve) with tool P/N 28584 as shown in photos 1 through 6 below.
   NOTE: IT MAY ONLY BE NECESSARY TO REPLACE SPOOL O-RINGS. IF SO, FOLLOW ONLY STEPS 1, 2 AND 3 IN PHOTOS BELOW.
3. Replace any o-rings or the bumper spacer if damaged, worn or swollen.
4. Lubricate o-rings with light coat of Haskel o-ring lubricant.
5. Use lubricant sparingly to hold bumper spacer to sleeve with rubber side facing sleeve.
6. Push lubricated sleeve and bumper into end cap bore, all the way in one quick motion. (If bumper drops off sleeve too soon, remove, regrease and repeat.)
7. Install spool.
8. Re-install external parts in air exhaust port.



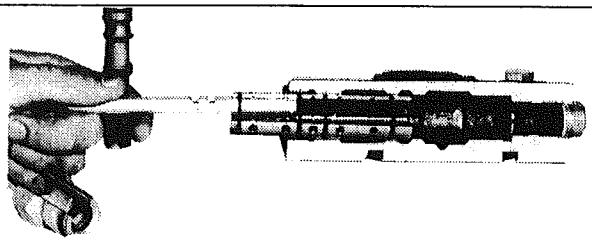
1. Tool and end cap assembly (cutaway).



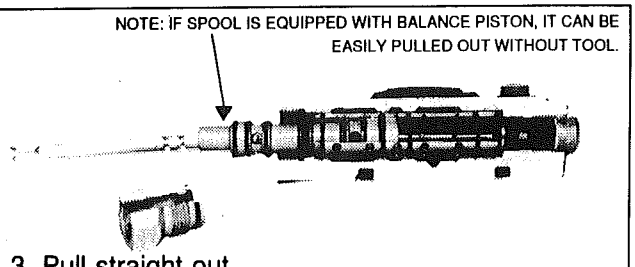
4. Insert tool in second row of holes in sleeve and, if necessary, pry out with screwdriver.



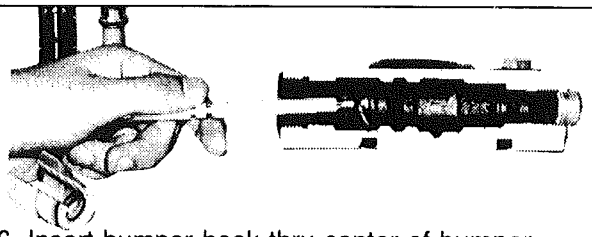
2. Insert tool in first row of holes.



5. Pull straight out.



3. Pull straight out.



6. Insert bumper hook thru center of bumper and pull straight out.

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REFERENCES:

16771	28193	51584	55436
17318	28508	52697	55441
17329	28512	52981	56484
26994	51398	54252	

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MODEL SELECTION CHART

Model No.	Curve On Page	Maximum Rated Gas Supply (Psig)	Maximum Rated Gas Outlet (Psig)	Static Outlet (Stall) Pressure Formula	Piston Displ. Cu. In. Per Cycle	Min. Inlet Gas Pressure Max. Outlet Gas Pressure Max Compression Ratio
AG-15	9	2250	2250	15 Pa	6.2	3.5 bar (50 psi) 155 bar(2250 psi) 20:1
AG-30	9	4500	4500	30 Pa	3.1	7 bar (100 psi) 310 bar(4000 psi) 25:1
AG-62	9	9000	9000	60 Pa	3.1	14 bar (200 psi) 620 bar(9000 psi) 25:1
AG-75	9	11250	11250	75 Pa	1.2	17 bar (250 psi) 775 bar(11,250 psi) 25:1
AG-152	9	20000	20000	150 Pa	1.2	17 bar (250 psi) 1380 bar(20,000 psi) 25:1
AG-233	9	22500	22500	225 Pa	1.2	17 bar (250 psi) 1380 bar(22,500 psi) 25:1
AG-303	10	39000	39000	300 Pa	0.89	34 bar (500 psi) 2690 bar(39,000 psi) 20:1
AGD-1.5	10	300	300	1.5 Pa + Ps	60	ATM 20.7 bar(300 psi) 10:1
AGD-4	10	1250	1250	4 Pa + Ps	19.3	ATM (1/4 ATM AGT-4) 86.2 bar(1250 psi) 10:1 (100:1 AGT-4)
AGD-7	10	2500	2500	7 Pa + Ps	26.4	1.7 bar (25 psi) 172 bar(2500 psi) 20:1
AGD-15	10	5000	5000	15 Pa + Ps	12.4	3.5 bar (50 psi) 345 bar(5000 psi) 20:1
AGD-30	10	9000	9000	30 Pa + Ps	6.2	7 bar (100 psi) 620 bar(9000 psi) 25:1
AGD-32	11	5000	5000	30 Pa + Ps	12.4	3.5 bar (50 psi) 310 bar(4500 psi) 20:1
AGD-62	11	9000	9000	60 Pa + Ps	6.2	14 bar (200 psi) 620 bar(9000 psi) 25:1
AGD-75	11	20000	20000	75 Pa + Ps	2.4	17 bar (250 psi) 1380 bar(20,000 psi) 25:1
AGD-152H	11	25000	25000	150 Pa + Ps	2.4	17 bar (250 psi) 1724 bar(25,000 psi) 25:1
AGT-4	11	1250	1250	4 Pa + Ps	10	1/4 ATM 86.2 bar(1250 psi) 100:1
AGT-7/15	11	(1) 6 Pa to 2500 (3) 5000	5000	15 Pa + 2 Ps	13.2	1.7 bar (25 psi) 276 bar(4000 psi) 50:1
AGT-7/30	12	(1) 2 Pa to 2500 (3) 5000	9000	30 Pa + 4 Ps	13.2	1.7 bar (25 psi) 379 bar(5500 psi) 100:1
AGT-15/30	12	(1) 15 Pa to 2500	9000	30 Pa + 2 Ps	6.2	3.5 bar (50 psi) 586 bar(8500 psi) 50:1
AGT-32/62	12	(1) 30 Pa to 2500	9000	60 Pa + 2 Ps	6.2	7 bar (100 psi) 621 bar(9,000 psi) 50:1
AGT-15/75	12	(1) 3.5 Pa to 5000	20000	75 Pa + 5 Ps	6,2	3.5 bar (50 psi) 897 bar(13,000 psi) 100:1

LEGEND: Ps = Gas Supply Pressure Pa = Drive Pressure Po + Gas Outlet Pressure

MODEL SELECTION CHART

Model No.	Curve On Page	Maximum Rated Gas Supply (Psig)	Maximum Rated Gas Outlet (Psig)	Static Outlet (Stall) Pressure Formula	Piston Displ. Cu. In. Per Cycle	Min. Inlet Gas Pressure; Max. Outlet Gas Pressure; Max Compression Ratio;
AGT-30/75	12	(1) 20 Pa to 9000	20000	75 Pa + 2. 5 Ps	3.1	7 bar (100 psi) 1103 bar(16,000 psi) 60:1
AGT-32/152H	12	(1) 7 Pa to 5000	25000	150 Pa + 5 Ps	6.2	7 bar (100 psi) 1724 bar(25,000 psi) 100:1
AGT/62-152H	13	(1) 40Pa to 3600 (3) 9000	25000	150 Pa + 2.5 Ps	3.1	7 bar (100 psi) 1724 bar(25,000 psi) 60:1
8AGD-1	13	300	300	1 Pa + Ps	400	3.5 bar (50 psi) 20.7 bar(300 psi) 25:1
8AGD-2	13	300	300	2 Pa + Ps	200	3.5 bar (50 psi) 20.7 bar(300 psi) 25:1
8AGD-2.8	13	800	800	2.8 Pa + Ps	125	7 bar (100 psi) 20.7 bar(300 psi) 25:1
8AGD-5	13	2500	2500	5 Pa + Ps	71.4	3.5 bar (50 psi) 172 bar(2500 psi) 20:1
8AGD-14	13	5000	5000	14 Pa + Ps	26.7	7 bar (100 psi) 172 bar(2500 psi) 20:1
8AGD-30	14	5000	5000	30 Pa + Ps	12.4	17 bar (250 psi) 345 bar(5,000 psi) 23:1
8AGD-60	14	9000	9000	60 Pa + Ps	6.2	21 bar (300 psi) 620 bar(9,000 psi) 28:1
8AGD-150	14	20000	20000	150 Pa + Ps	2.4	17 bar (250 psi) 1380 bar(20,000 psi) 25:1
8AGD-5/14	14	(1) 2.8 Pa to 2500	2500	14 Pa + 2.8 Ps	35.7	2.7 bar (25 psi) 172 bar(2500 psi) 50:1
8AGD-5/30	14	(1) 1 Pa to 2500	5000	30 Pa + 6 Ps	35.7	2.7 bar (25 psi) 345 bar(5000 psi) 50:1
8AGT-14/30	14	(1) 12Pa to 1190 (3) 2500	5000	30 Pa + 2.1 Ps	13.2	7 bar (100 psi) 345 bar(5000 psi) 50:1
8AGT-14/60	15	(1) 4.3Pa to 2500	9000	60 Pa + 4.3 Ps	13.2	7 bar (100 psi) 620 bar(9,000 psi) 50:1
8AGT-30/60	15	(1) 30 Pa to 2500 (3) 5000	9000	60 Pa + 2 Ps	6.2	17 bar (250 psi) 620 bar(9,000 psi) 100:1
8AGT-30/150	15	(1) 7Pa to 5000	20000	150 Pa + 5 Ps	6.2	17 bar (250 psi) 1380 bar(20,000 psi) 50:1
8AGT-60/150	15	(1) 40Pa to 3600 (3) 9000	20000	150 Pa + 2.5 Ps	3.1	34 bar (500 psi) 1380 bar(20,000 psi) 100:1
14AGD-125	15	15000	15000	125 Pa + Ps	8.87	69 bar (1000 psi) 1035 bar(15,000 psi) 10:1
14AGD-315	15	35000	35000	315 Pa + Ps	3.53	69 bar (1000 psi) 2415 bar(35,000 psi) 10:1
14AGT-125/315	16	(1) 82 Pa to 6000 (3) 15000	35000	315 Pa + 2.5 Ps	4.44	6.9 bar (100 psi) 2415 bar(35,000 psi) 40:1

1) Two-stage model: Supply pressure also limited by factor x air drive (Pa) to avoid interstage stall
2) Maximum 1st stage pressure. If outlet pressure will exceed this, install interstage relief valve set at this pressure if at the same time, supply pressure will exceed pressure limit above the line
3) Maximum air drive is 150 psig all models except AG-233, AG-303, AGD-1.5(130 psig)
4) 130 psig maximum drive pressure for all 8" + 14" models