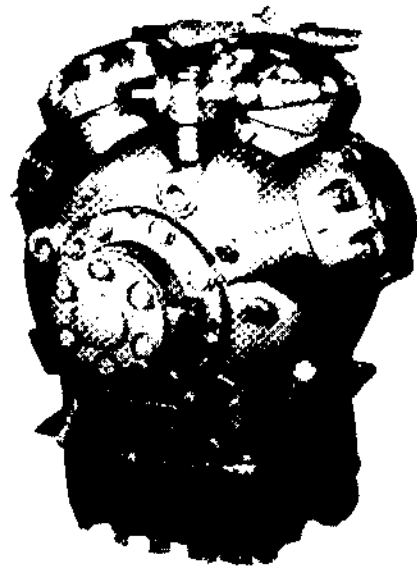


# **Model G Compressor**

**TK 40211-1.1**



**Printed (October 24, 1994)**

## General Information

### Tables of Contents

This Parts Manual contains alphabetical and numerical tables of contents listing each assembly name and its associated Grid number and page number. The alphabetical table of contents is arranged alphabetically by assembly name. The numerical table of contents is arranged numerically by Grid number. There may be references in a parts list referring to other Grid numbers. The Numerical table of contents is arranged to facilitate finding the referenced illustrations.

### Assemblies and Subassemblies

When parts are indented in the description list, it is preceded with a bullet ( • ). This indicates that the part(s) is available separately or included in an assembly

### THERMOFILM GRID NO. 67D6 SWITCH PANEL ASSEMBLY

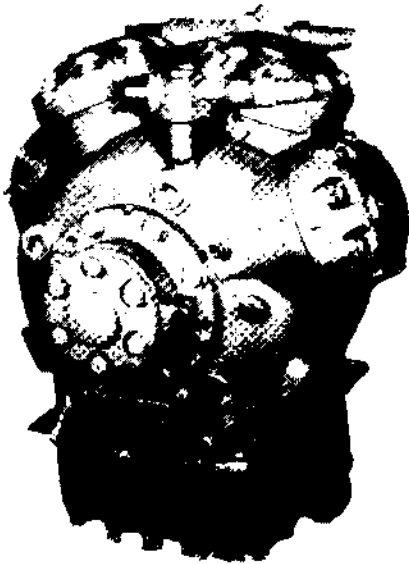
REF	PART#	DESCRIPTION	REQ
	45-1239	PANEL - assy, switch	1
1	99-1960	•PANEL	1
	99-6280	••NAMEPLATE - panel	1
2	33-743	•GASKET	1

For example: the switch panel nameplate (99-6280) is available separately, available as part of the switch panel (99-1960) and with the panel assembly (45-1239).

## ABBREVIATIONS

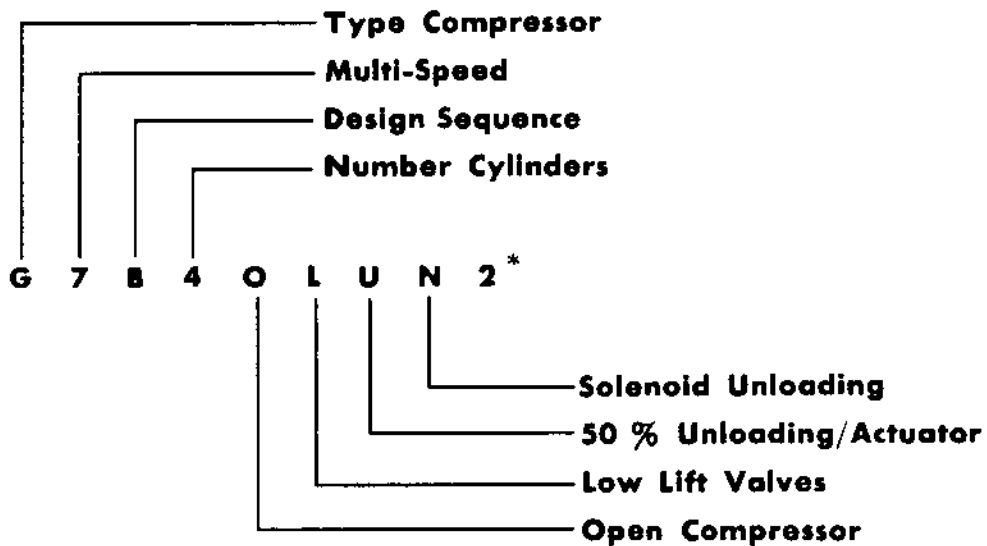
The following abbreviations appear in parts manuals

<b>A</b>	ac . . . . .	alternating current	<b>E</b>	(continued)	<b>O</b>	os . . . . .	oversized
	A/R . . . . .	as required		exch . . . . .		od . . . . .	outside diameter
	accum . . . . .	accumulator		exp . . . . .	<b>P</b>	pcb . . . . .	printed circuit board
	adj . . . . .	adjusting		ext . . . . .		pkg . . . . .	package
	al . . . . .	aluminum	<b>F</b>	F . . . . .		ph . . . . .	phase
	alt . . . . .	alternator		fill . . . . .		pos . . . . .	positive
	amp . . . . .	ampere		fi . . . . .		psi . . . . .	pounds per square inch
	assy . . . . .	assembly		fl . . . . .	<b>R</b>		
<b>B</b>	bd . . . . .	board		fpt . . . . .		rad . . . . .	radiator
	brg . . . . .	bearing		ft . . . . .		rcvr . . . . .	receiver
	brkr . . . . .	breaker		ftg . . . . .		ref . . . . .	reference
	brkt . . . . .	bracket				reg . . . . .	regulator
<b>C</b>	C . . . . .	Celsius	<b>H</b>	hex . . . . .		req . . . . .	required
	cw . . . . .	clockwise		hh . . . . .		rpm . . . . .	revolutions per minute
	ccw . . . . .	counter-clockwise		hd . . . . .	<b>I</b>		
	cam . . . . .	camshaft		HP . . . . .		id . . . . .	inside diameter
	compr . . . . .	compressor		hsg . . . . .		in. . . . .	inch (2.54 centimeters)
	cond . . . . .	condenser				incl . . . . .	includes
	conn . . . . .	connecting, connector				inj . . . . .	injection
	cyl . . . . .	cylinder				int . . . . .	internal
<b>D</b>	def . . . . .	defrost				int th . . . . .	internal tooth
	dehyd . . . . .	dehydrator	<b>L</b>				
	dia . . . . .	diameter		liq . . . . .	<b>M</b>		
	disc . . . . .	discharge		lg . . . . .		mm . . . . .	millimeter
	diff . . . . .	differential				mpt . . . . .	male pipe thread
<b>E</b>	EMI . . . . .	External Maintenance Interval				mod . . . . .	modulating
	EEC . . . . .	European Economic Community	<b>N</b>				
	eng . . . . .	engine		neg . . . . .		neg No. . . . .	negative number
	evap . . . . .	evaporator		NS . . . . .		NS . . . . .	not supplied
				NSS . . . . .		NSS . . . . .	not sold separately



# MODEL G ALUMINUM RECIPROCATING COMPRESSOR

MODEL	DESIGN SEQUENCE
2 CYLINDER	B&H
3 CYLINDER	B&H
4 CYLINDER	B, D, F&H



\*Indicates size and rotation of unidirectional oil pump on models so equipped:

	DIRECTION OF ROTATION	CAPACITY
1	Counterclockwise	3 GPM
2	Clockwise	3 GPM
3	Counterclockwise	1.5 GPM
4	Clockwise	1.5 GPM

# Model G Compressor

## Contents (Alphabetical by Assembly Name)

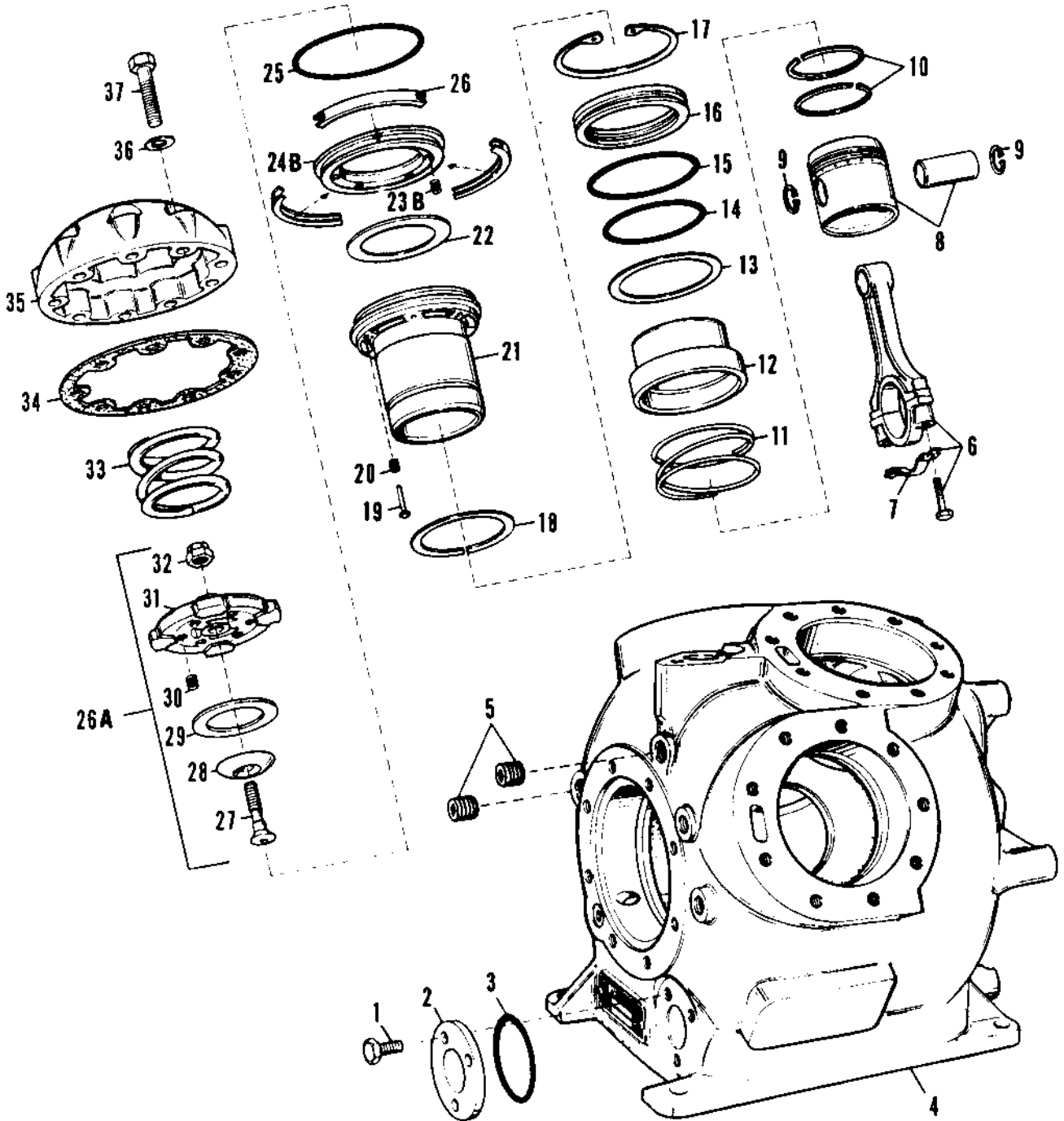
Name	Grid	Page
CRANKSHAFT AND SEAL .....	111B8 .....	8-9
CRANKSHAFT AND SEAL .....	111B9 .....	10-11
OIL BASE .....	111B7 .....	6-7
OIL PICKUP .....	111B6 .....	4-5
PISTON GROUP .....	111B5 .....	2-3
SERVICE VALVES .....	111B10 .....	12-13

# Model G Compressor

## Contents (Numerical by Grid Number)

<b>Name</b>	<b>Grid</b>	<b>Page</b>
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OIL PICKUP .....	111B6 .....	4-5
OIL BASE .....	111B7 .....	6-7
CRANKSHAFT AND SEAL .....	111B8 .....	8-9
CRANKSHAFT AND SEAL .....	111B9 .....	10-11
SERVICE VALVES .....	111B10 .....	12-13

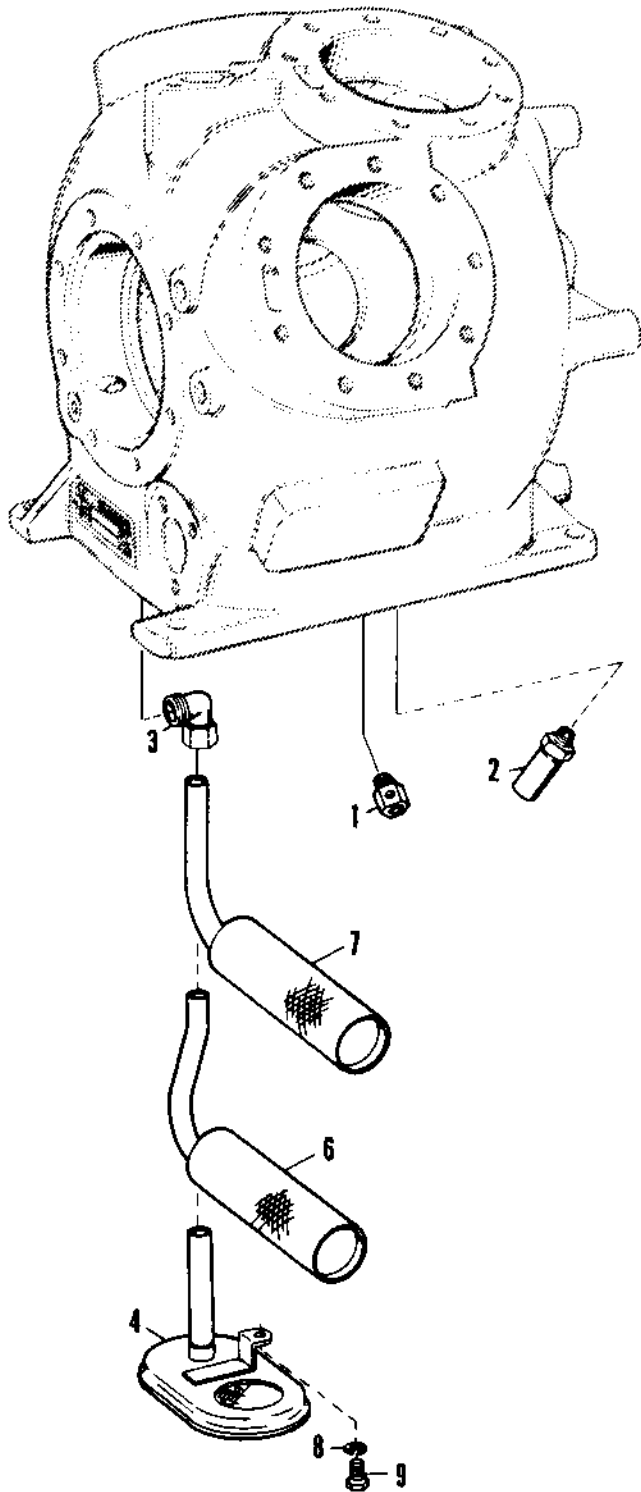
No ENTRIES



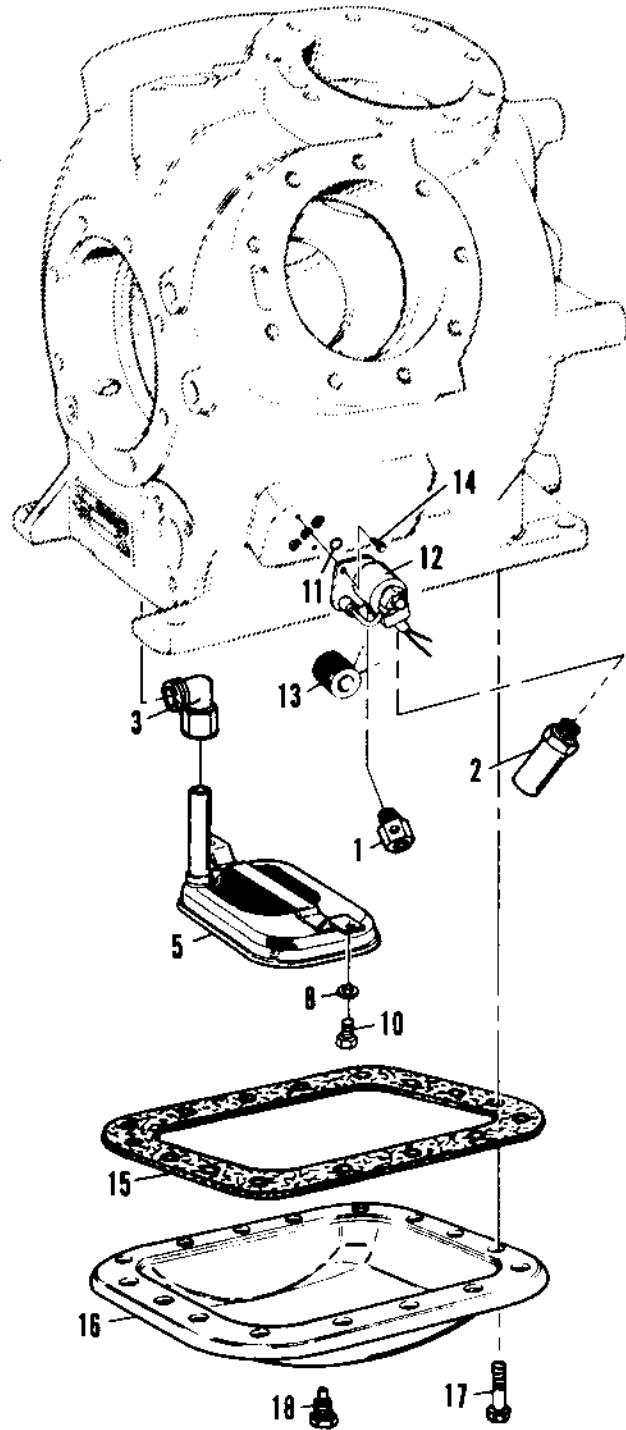
REF	PART#	DESCRIPTION	REQ		
			2 Cyl	3 Cyl	4 Cyl
1	55-538	SCREW - mtg sightglass	3	3	3
2	306-250	SIGHTGLASS	1	1	1
3	303-278	O-RING - sightglass	1	1	1
4	NSS	HOUSING - compressor	1	1	1
5	305-410	PLUG - housing			2
6	301-331	ROD - connecting	2	3	4
7	305-349	LOCK - connecting rod	2	3	4
8	301-316	PISTON HEAD AND PIN	2	3	4
9	305-435	RING - retaining	4	6	8
10	301-324	RING - compression	4	6	8
11	309-918	SPRING - unloader	1	2	2
12	301-318	PISTON - unloader	1	2	2
13	303-255	RING - unloader	1	2	2
14	303-253	O-RING - retainer to unloader piston	1	2	2
15	303-252	O-RING - retainer to housing	1	2	2
16	309-670	RETAINER - unloader	1	2	2
17	303-254	RING - retaining	1	2	2
18	301-324	RING - take-up, unloader	1	2	2
19	305-398	PIN - lift, unloader	6	12	12
20	309-721	SPRING - lift pin, unloader	6	12	12
21	306-719	LINER - cylinder	2	3	4
22	302-201	VALVE - suction	2	3	4
23	309-728	SPRING - suction valve	12	18	24
24	309-564	VALVE PLATE	2	3	4
25	303-250	O-RING - suction valve plate	2	3	4
26	305-434	RING - retaining	6	9	12
	306-593	VALVE - discharge assembly	2	3	4
27	305-474	●SCREW - valve cage	1	1	1
28	301-337	●SEAT - discharge	1	1	1
29	302-202	●VALVE - discharge	1	1	1
30	309-717	●SPRING - discharge valve	6	6	6
31	302-102	●CAGE - discharge valve	1	1	1
32	305-356	●NUT - lock, valve cage screw	1	1	1
33	309-718	SPRING - cylinder head	2	3	4
34	303-699	GASKET - cylinder head	2	3	4
35	301-180	HEAD - cylinder	2	3	4
36	55-402	FLATWASHER	18	27	36
37	55-3641	SCREW - mtg cylinder head	18	27	36



### ACTUATOR UNLOADING



### SOLENOID UNLOADING OR NO UNLOADING

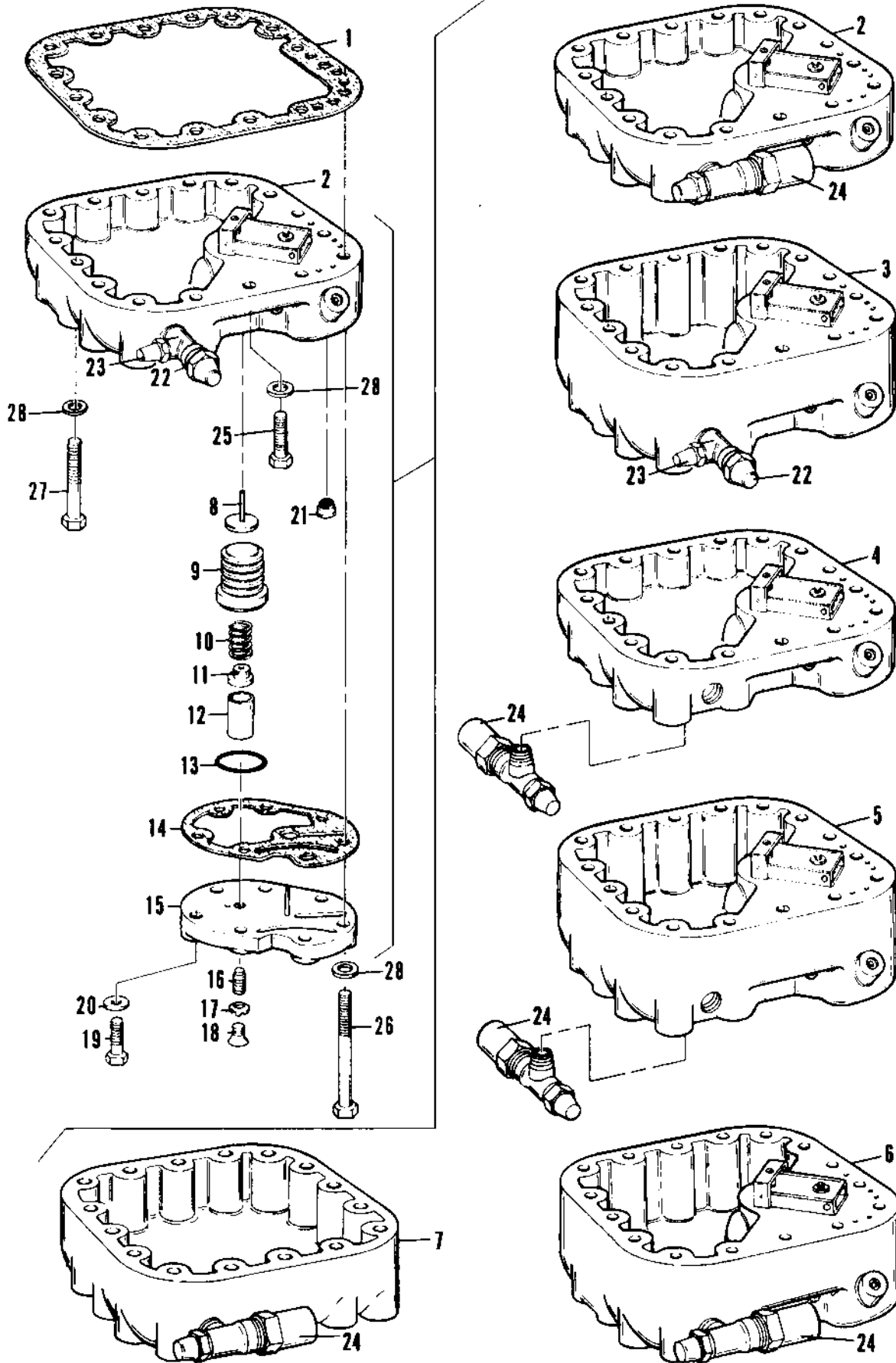


THERMOFILM GRID NO. 111B6  
OIL PICKUP

REF	PART#	DESCRIPTION	REQ		
			2 Cyl	3 Cyl	4 Cyl
1	301-306	ORIFICE - oil drain	2	2	2
2	306-533	VALVE - oil regulating	1	1	1
3	305-103	ELBOW - adapter	1	1	1
4	302-172	STRAINER - 2 cylinder w/acuator unloading	1	1	1
5	302-221	STRAINER - 3 and 4 cylinder w/solenoid unloading or wo/unloaders	1	1	1
6	302-265	STRAINER - oil, H design compressor w/acuator unloading having deep oil sump	1		
	302-166	STRAINER - oil, D, F and H compressors w/acuator unloading, having deep oil sump (tube length 4.68")			1
7	302-168	STRAINER - oil H design compressor wo/acuator unloading having deep oil sump (tube length 4.00")	1	1	
	302-221	STRAINER - oil D,F and H design compressors w/acuator unloading, having shallow sump (tube length 3.11")			1
	302-222	STRAINER - oil H desgin compressor w/acuator unloading having deep oil sump (tube length 4.68")		1	
8	305-559	LOCKWASHER - B design compressor w/acuator unloading	1	1	1
9	305-477	SCREW - (B design compressor w/acuator unloading)	1	1	1
10	305-482	SCREW - machine, 10-24 x 1/2 B design compressor w/solenoid unloading or wo/unloaders	2	2	2
11	303-232	O-RING - solenoid valve mtg (solenoid unloading models)	3	3	3
12	306-688	VALVE - solenoid 3-way 230V, 50-60 cycle, (solenoid unloading models only)	1	1	1
13	304-2138	●COIL - solenoid valve, 220-240/50-60, ASCO No. 99-216-2	1	1	1
14	55-538	SCREW - solenoid valve mounting	2	2	2
15	303-646	GASKET - handhole cover for compressors w/solenoid unloading or wo/unloaders			1
	303-120	GASKET - handhole cover	1		
	303-121	GASKET - handhole cover		1	
16	309-2300	COVER - handhole, for compressors w/solenoid unloading or wo/unloaders	1		
	309-2301	COVER - handhole , for compressors w/solenoid unloading or wo/unloaders			1
17	305-1464	SCREW - mtg cover	14	14	16
18	305-412	PLUG - pipe, magnetic, 1/4 NPT	1	1	1

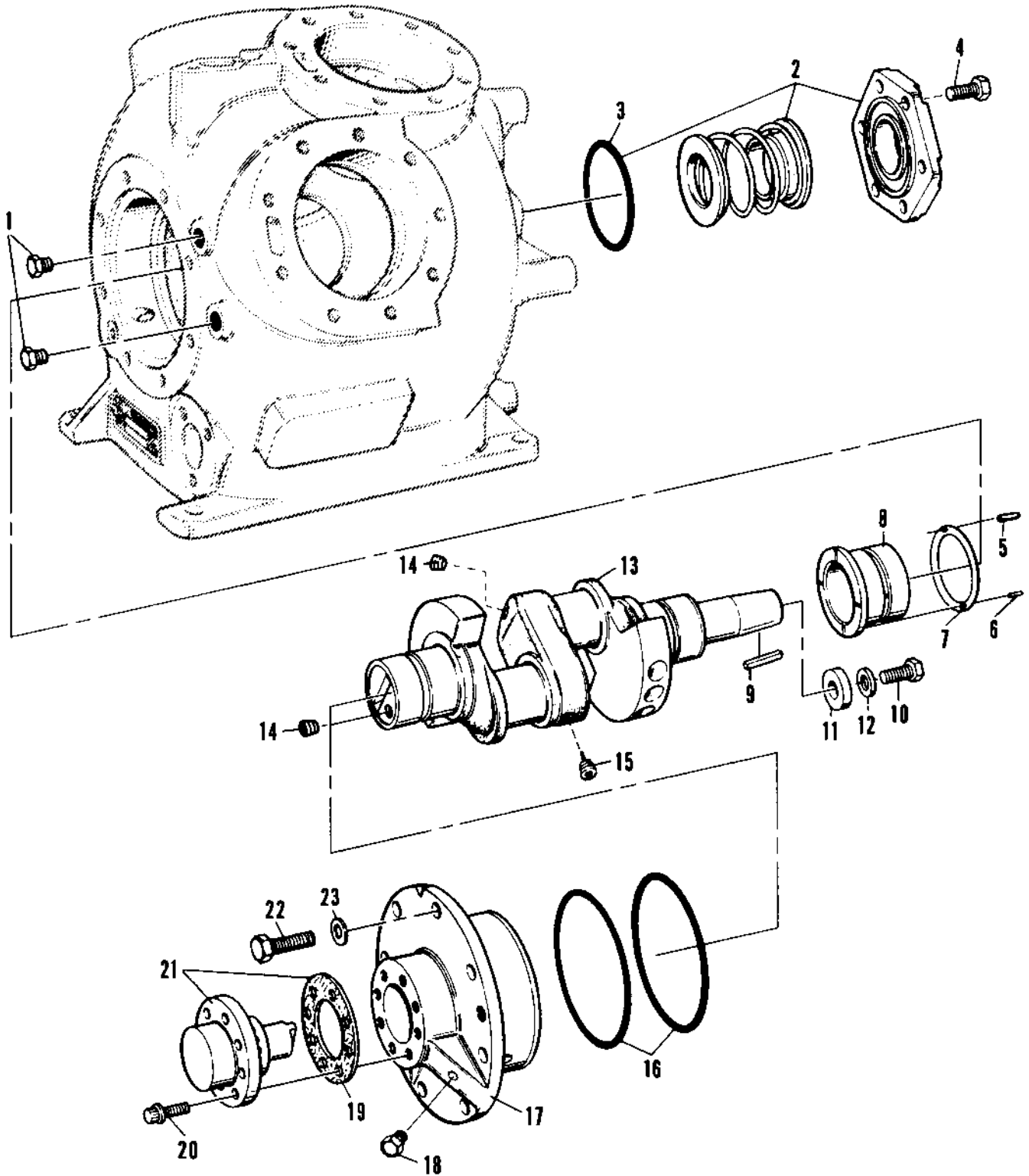
**NOTE:** When ordering strainer, also order the adpater elbow 305-103.

### COMPRESSOR PARTS



REF	PART#	DESCRIPTION	REQ		
			2 Cyl	3 Cyl	4 Cyl
1	303-649	GASKET - control handhole cover	1		
	303-117	GASKET - control handhole cover		1	
	303-697	GASKET - control handhole cover			1
2	309-2302	SUMP - shallow, control handhole cover assy, (B design)	1		
	302-266	SUMP - shallow, control handhole cover assy, (B design)		1	
	309-295	SUMP - shallow, control handhole cover assy, (B design)			1
	302-267	SUMP - shallow, control handhole cover, ( B design GMC )			1
3	309-844	SUMP - deep, control handhole cover assy, (D design compressor w/reversible oil pump			1
	309-307	SUMP - deep, control handhole cover assy, (F & H design )			1
4	COV-478	SUMP - shallow, control handhole cover (F & H design)			1
5	309-305	SUMP - deep, control handhole cover assy, (F & H design)			1
6	302-268	SUMP - deep, control handhole cover assy, (H design)	1	1	
	309-305	SUMP - deep, control handhole cover assy, (F & H design)			1
7	309-843	SUMP - deep cover handhole, (H design compressor wo/unloaders)		1	
8	305-404	●PLUNGER	1	1	1
9	306-109	●BELLOWS	1	1	1
10	SPG-43	●SPRING	1	1	1
11	301-338	●SEAT - spring	1	1	1
12	SUL-5	●SLEEVE	1	1	1
13	303-266	●O-RING	1	1	1
14	303-702	●GASKET - distributor cover	1	1	1
15	302-269	●COVER - distributor	1		
	302-270	●COVER - distributor		1	
	309-296	●COVER - distributor			1
16	55-129	●SCREW - adjusting bellows	1	1	1
17	305-568	●LOCKWASHER	1	1	1
18	305-475	●SCREW - mtg cover	1	1	1
19	305-467	●SCREW - mtg cover	4	4	4
20	55-402	●FLATWASHER	4	4	4
21	SRN-12	●SCREEN - strainer	1	1	1
22	66-1367	●VALVE - angle 309-295, 307, 844, 2302 & 302-266	1	1	1
23	55-1983	●NUT - cap, hex, 1/4	1	1	1
24	306-578	●VALVE - angle (used only on items 2,4-7)	1	1	1
25	305-467	●SCREW - mtg cover, 1 1/4 in. lg	2	2	2
26	305-473	●SCREW - mtg cover, 3 1/4 in. lg	3	3	3
	305-486	●SCREW - mtg cover, 4 3/4 in. lg	3	3	3
27	305-459	●SCREW - mtg cover, 2 1/2 in. lg	9	9	11
	55-2980	●SCREW - mtg cover, 4 in. lg	9	9	11
28	305-567	●FLATWASHER	14	14	16

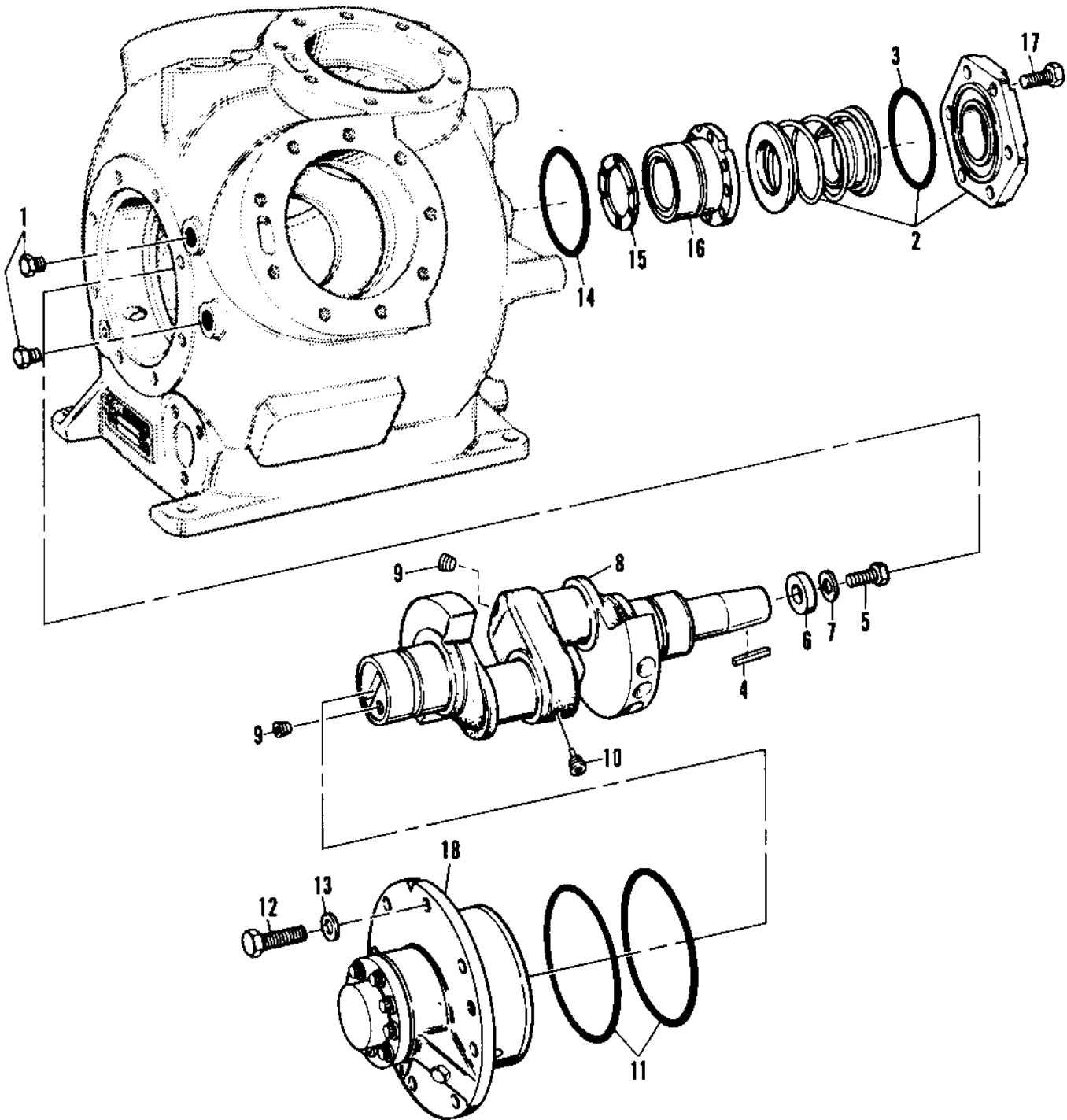
COMPRESSOR PARTS  
B & D DESIGN



THERMOFILM GRID NO. 111B8  
CRANKSHAFT AND SEAL

REF	PART#	DESCRIPTION	REQ		
			2 Cyl	3 Cyl	4 Cyl
1	305-408	PLUG - pipe	3	3	3
2	303-299	SEAL - shaft	1	1	1
3	303-249	O-RING - shaft seal	1	1	1
4	55-329	SCREW - hex head, mtg shaft seal	6	6	6
	305-629	SCREW - socket head, mtg shaft seal	6	6	6
5	305-1465	PIN - dowel	1	1	1
6	305-1466	PIN - roll, (used only on B,D & F design compressors)	1	1	1
7	301-340	SHIM - .015 thick	1	1	1
8		BEARING - (used only on B, D & F compressor w/seal end bearing head) update compressor per Service Bulletin BG-051980	1	1	1
9	305-333	KEY - shaft	1	1	1
10	305-479	SCREW - crankshaft	1	1	1
11	305-1367	FLATWASHER	1	1	1
12	55-364	LOCKWASHER	1	1	1
13	302-271	CRANKSHAFT - (includes 2 each, item 14)	1		
	301-118	CRANKSHAFT - (includes 2 each, item 14)		1	
	301-119	CRANKSHAFT - (includes 2 each, item 15)			1
14	305-411	PLUG - pipe	2	2	2
15	305-413	PLUG - pipe			1
16	303-267	O-RING - bearing head to housing	2	2	2
17	307-356	BEARING HEAD	1	1	1
18	305-408	PLUG - pipe	1	1	1
19	303-221	GASKET - oil pump, .013 thick (used only w/302-272 and 302-273)	1	1	1
	303-113	GASKET - oil pump, .015 thick (used only w/302-272 and 302-273)	1	1	1
20	55-5188	SCREW - (mounting reversible oil pump on B and D design compressors only)	8	8	8
21	302-272	PUMP - oil, including 1 each 303-112 and 303-113 (B and D design compressors w/unloading which have not been changed to uni-directional pump)	1	1	1
	302-273	PUMP - oil, including 1 each 303-112 and 303-113 (B and D design compressors w/unloading which have not been changed to uni-directional pump)	1	1	1
22	55-529	SCREW - mtg bearing head	8	8	8
23	55-402	FLATWASHER	8	8	8

**NOTE:** Item 4 compressors are equipped with either button or hex head screws.  
Item 7 used only for setting and play on crankshaft when repairing compressor.  
Item 17 & 18 bearing head for reversible oil pump is no longer available.  
Determine rotation of present oil pump and pump GPM requirements (3 GPM with unloaders, 1.5 GPM without unloaders). Then select from 307-261, 301-181, 307-113 or 301-181. (See 111B9)



THERMOFILM GRID NO. 111B9  
CRANKSHAFT AND SEAL

REF	PART#	DESCRIPTION	REQ		
			2 Cyl	3 Cyl	4 Cyl
1	305-408	PLUG - pipe	3	3	3
2	303-299	SEAL - shaft, includes o-ring	1	1	1
3	303-249	●O-RING - shaft seal	1	1	1
4	305-333	KEY - shaft	1	1	1
5	305-479	SCREW - crankshaft	1	1	1
6	305-1367	FLATWASHER	1	1	1
7	55-364	LOCKWASHER	1	1	1
8	301-119	CRANKSHAFT - (including 1 each 305-406, 2 each 305-411)	1	1	1
9	305-411	PLUG - pipe	2	2	2
10	305-413	PLUG - pipe, magnetic	1	1	1
11	304-267	O-RING - bearing head to housing	2	2	2
12	55-529	SCREW - mtg bearing head	8	8	8
13	55-402	FLATWASHER	8	8	8
14	303-249	O-RING - bearing head mounting (H design)	1	1	1
15	307-385	BEARING - thrust (standard .064 thick) (H design compressor)	1	1	1
	307-115	BEARING - thrust (oversize .072 thick) (H design compressors)	1	1	1
16	301-183	BEARING HEAD - seal end (H design compressors)	1	1	1
17	55-129	SCREW - hex head (mounting seal and bearing head, H design compressors)	6	6	6
	305-1460	SCREW - socket button head (mounting seal and bearing head, H design compressors)	6	6	6
18	307-261	BEARING HEAD AND OIL PUMP ASSY - uni-directional (clockwise rotation, 3 GPM) (F and H design compressors with suffix "2" on model no.)	1	1	1
	301-356	BEARING HEAD AND OIL PUMP ASSY - uni-directional (counterclockwise rotation, 3 GPM) (F and H design compressors with suffix "1, 3 or 4" on model no.)	1	1	1

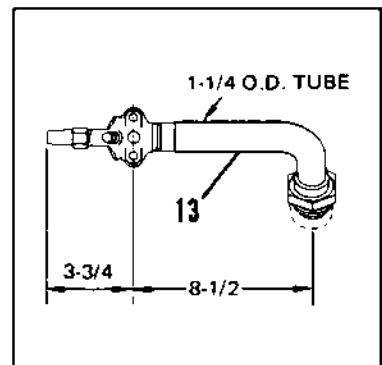
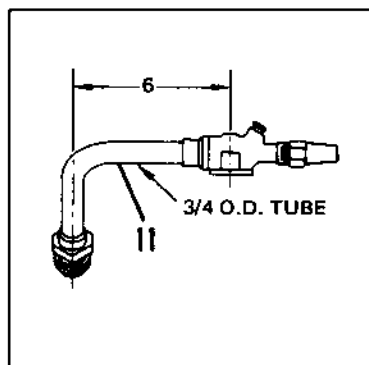
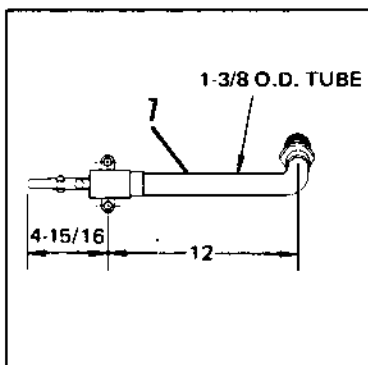
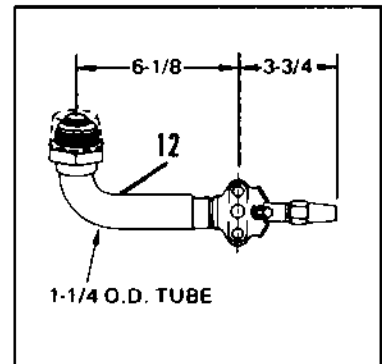
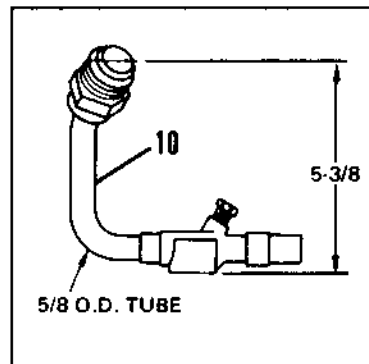
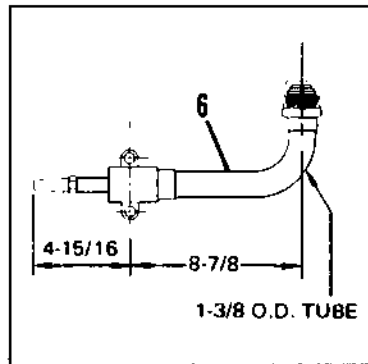
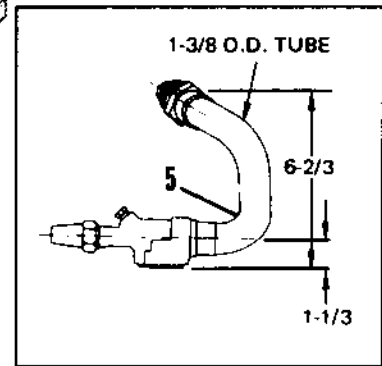
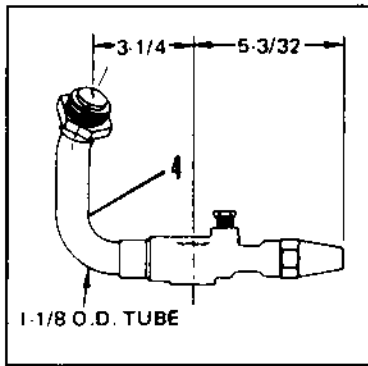
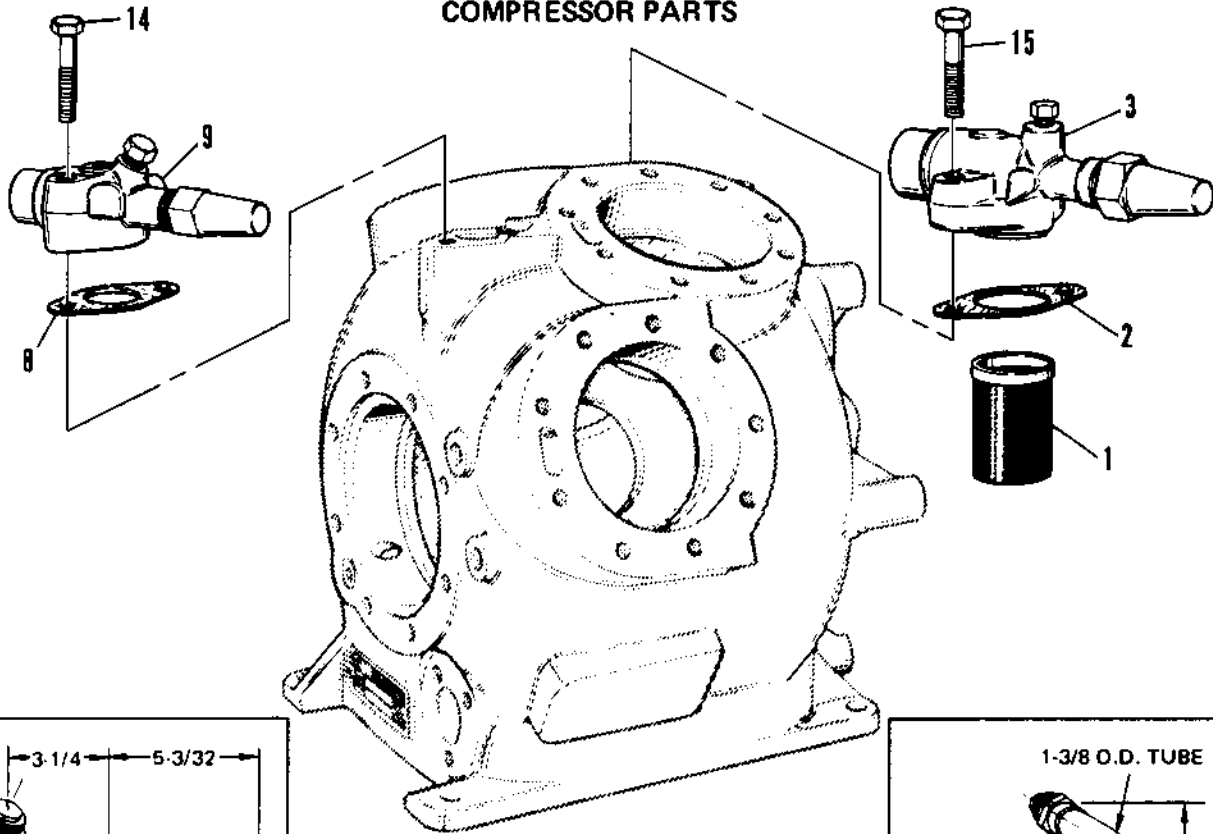
**NOTE:** Item 15 Part No. 307-115 used only for setting end play on crankshaft when repairing compressor.

Item 17 compressors are equipped with either button or hex head screws.

Item 18 rotation is determined by viewing compressor from oil pump end.



### COMPRESSOR PARTS



REF	PART#	DESCRIPTION	REQ		
			2 Cyl	3 Cyl	4 Cyl
1	302-220	STRAINER - suction gas	1		
	302-164	STRAINER - suction gas		1	1
2	303-132	GASKET - suction valve	1		
	303-700	GASKET - suction valve		1	1
3	306-1502	VALVE - suction, 1 1/8	1		
	306-804	VALVE - suction 1 3/8		1	1
4	302-205	VALVE AND TUBE ASSEMBLY - suction, GMC applications	1		
5	306-783	VALVE AND TUBE ASSEMBLY - suction, GMC applications		1	
6	306-651	VALVE AND TUBE ASSEMBLY - suction, GMC applications			1
7	306-526	VALVE AND TUBE ASSEMBLY - suction, GMC applications			1
8	303-131	GASKET - discharge valve	1		
	303-701	GASKET - discharge valve		1	1
9	302-185	VALVE - discharge, 5/8"	1		
	302-274	VALVE - discharge, 3/4"		1	
	302-101	VALVE - discharge, 7/8"			1
10	302-206	VALVE AND TUBE ASSEMBLY - discharge, GMC applications	1		
11	306-697	VALVE AND TUBE ASSEMBLY - discharge, GMC applications		1	
12	306-1166	VALVE AND TUBE ASSEMBLY - discharge, GMC applications			1
13	306-696	VALVE AND TUBE ASSEMBLY - discharge, GMC applications			1
14	305-469	SCREW - suction valve	2		
	55-3674	SCREW - suction valve		2	2
15	55-3674	SCREW - discharge valve, 3/8-16 x 2 dia	2		
	305-456	SCREW - discharge valve, 1/2-13 x 2 dia		2	2
	303-647	KIT - gasket, complete	1		
	303-648	KIT - gasket, complete		1	
	301-228	KIT - gasket, complete			1
	302-275	KIT - oil line (actuator unloading)	1		
	302-276	KIT - oil line (actuator unloading)		1	
	301-229	KIT - oil line (actuator unloading)			1
	302-277	KIT - oil line (actuator unloading)	1		
	302-278	KIT - oil line (actuator unloading)		1	
	302-279	KIT - oil line (actuator unloading)			1



# SERVICE BULLETIN

The Trane Company - La Crosse, Wisconsin 54601

No: BG-061479

Date: 3/16/81

Dist: Upon Request

SUBJECT: REPLACEABLE SLEEVE BEARING INSERT FOR TRANE STANDARD MODEL "G"  
COMPRESSORS

COMPRESSOR MODELS AFFECTED: ALL MODEL G7P AND EARLIER

Coach operators can improve the reliability and serviceability of their Trane Model G compressors built before early 1975 by use of the latest seal end bearing head assembly in lieu of the original design when the compressor is next rebuilt. Similar results are possible by rework of existing compressors or existing inventory. This bulletin provides data for either approach if compressor has external seal end bearing head. If bearing head is internal, see Bulletin BG-051980 as well.

## IMPROVED SERVICEABILITY

The new seal end bearing head assemblies feature replaceable precision inserts. The other model had inserts requiring they be bored in place. Most commonly, the entire bearing head assembly is replaced. The newer style greatly reduces the overhaul expense.

## IMPROVED RELIABILITY

Bearing life in this latest version of the Trane Model G was greatly improved over earlier models. The newer bearing head design offers improved lubrication and, in particular, when used with the latest crankshaft design it provides increased surface area for the bearing load.

## IDENTIFICATION

New style bearing heads can be distinguished from earlier models by inspecting the bearing insert. The older style insert was bored in place and is not notched (see Figure 1).

## UPDATE WITHOUT REWORK

Those operators not wishing to rework old style bearing heads can purchase the later version with replaceable inserts and install as a direct interchange. Order information follows:



TRANSPORT AIR CONDITIONING AND REFRIGERATION

<u>Former P/N (Obsolete)</u>	<u>Current Replacement P/N</u>	<u>Qty.</u>	<u>Description</u>
BRG-239	HD-161	1	Bearing Head Assembly (Type 21 Seal)
BRG-292	HD-160	1	Bearing Head Assembly (Type 2 Seal)
BRG-229	Not applicable	1	Bored in Place Insert (was used in BRG-239 or BRG-292)
Not applicable	IRT-2	1	Precision Replaceable Bearing Insert (for use in HD-160 or HD-161; or reworked BRG-239 or BRG-292)
CSF-35*	CSF-61	1	4G Crankshaft (Main bearing oil groove at both ends of shaft)

\*Existing inventory may be used with a new bearing head design, though slightly less reliable. However, CSF-61 (main bearing oil groove at pump end only) may not be used with compressors not updated to use new bearings.

#### REWORK OF EXISTING COMPRESSORS OR INVENTORY

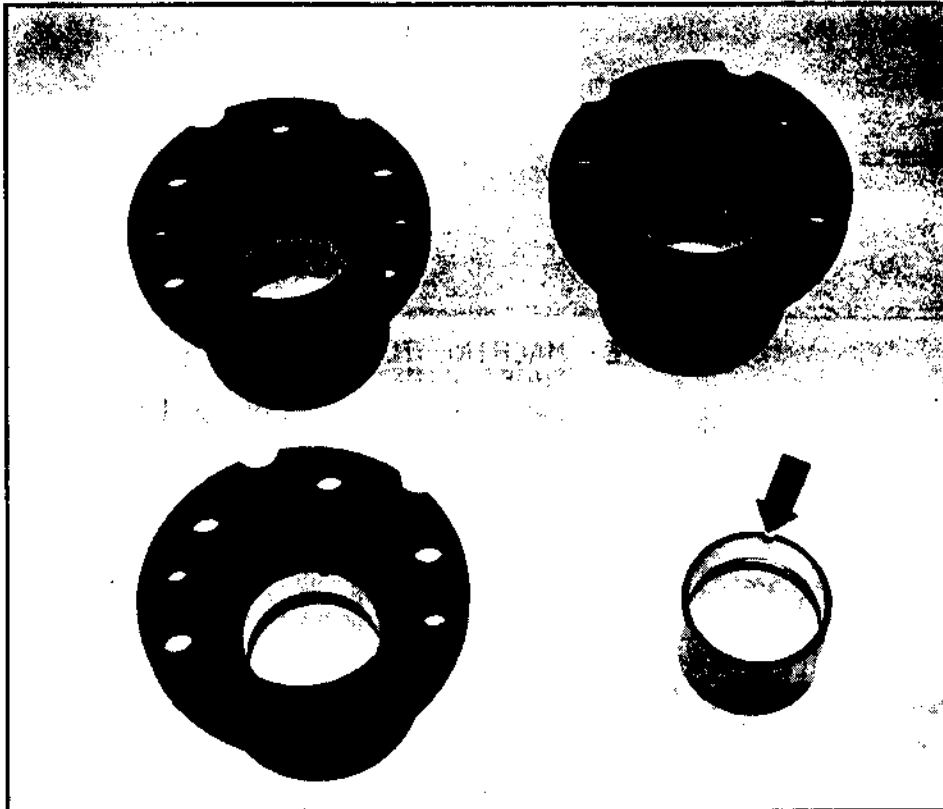
For those operators wishing to rework bearing heads BRG-239 or BRG-292 to accept the replaceable precision insert (IRT-2), the use of a press and the following procedures are required:

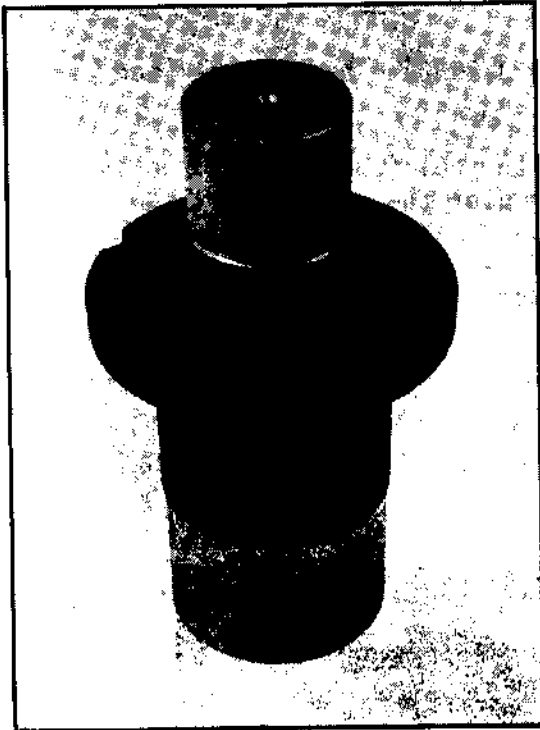
1. Obtain special bearing installer and remover tool assembly J-26504 and precision bearing insert IRT-2. Special tool assembly J-26504 can be purchased from:

Kent Moore Corporation  
Tool Division  
29784 Little Mac Avenue  
Roseville, MI 48066  
Attention: Order Department

2. Place J-26504-10 support on the press. Insert either bearing head BRG-239 or BRG-292 on the support and place J-26504-6 remover tool into bearing. Note that the remover tool has an end with a hole and an insert pin (labeled installer) which is required to install the precision insert into the bearing head. The other end of the tool is required to remove the bored in place insert from the old style bearing head (see Figures 2 and 3).
3. Press insert from bearing assembly and discard insert.
4. Check the OD of the bearing housing to dimensions 2.6782 to 2.6787 inches and machine I.D. to dimensions 1.9067 inches concentric within .0005 inch to the OD (see Figure 4).

5. Install reworked bearing housing into J-26504-8 base plate (see Figures 5 and 6). Place in press.
6. Install insert IRT-2 onto the installer tool (use end with hole). Place the tool onto the positioning rod of the base plate (see Figure 6).
7. Press on installer tool until it bottoms out on base plate. Remove assembly.

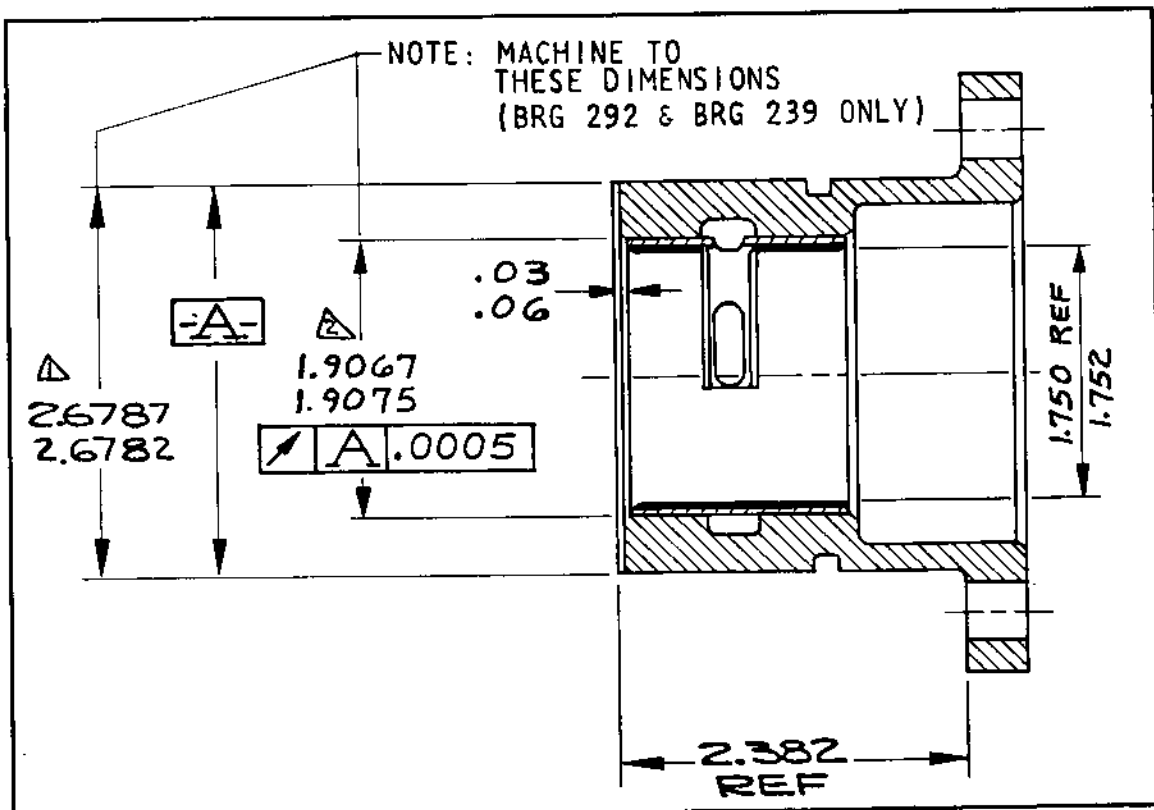




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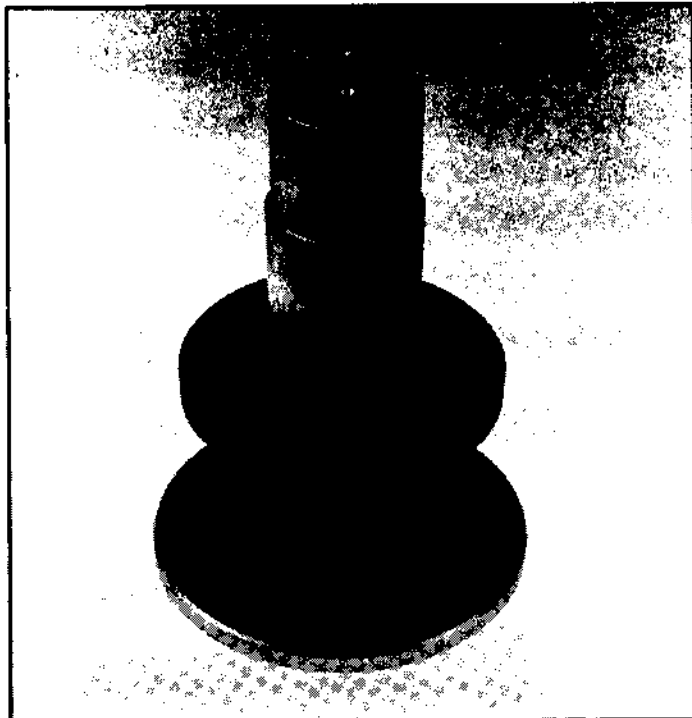
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