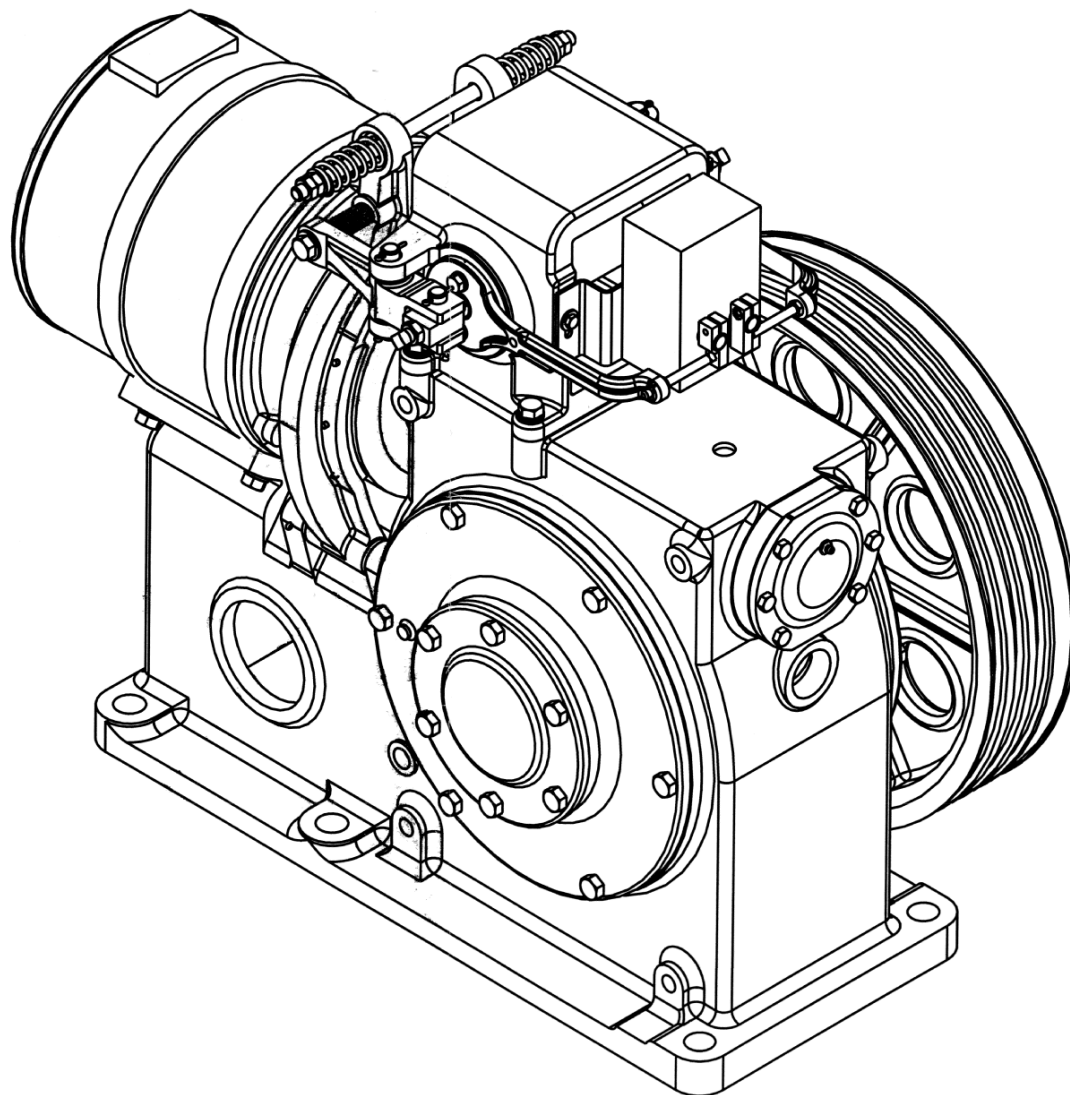


# 14 AT Machine

**Spare Parts Leaflet**

**06-6149A**

**August 24, 2011 / Page 1 of 23**



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**OTIS**

**Safety First!**

**SERVICE ENGINEERING**  
Otis Elevator Company  
Bloomfield, Connecticut USA

**Leaflet Description**

The 14AT machine is a worm geared traction machine with a horizontal worm above the gear. Motor mounting is integral with the gearcase and is either saddle type or foot mount, depending on the motor furnished. It shares most internal parts in common with the 14AX (External Geared), 14AS (External Geared Sidewalk), and 14AY (External Geared Drum) machines.

There were three major revisions to the thrust bearing parts. The first style was used until 1957 and is indicated by the hourglass-shaped thrust cover. The second was used from 1957 through 1964 and is indicated by a round thrust cover with flats on the top and bottom. The third style was used from 1964 on and is indicated by the change of the thrust cover bolt pattern to a larger 5-1/16 in. diameter circle. These covers are illustrated on the respective pages of this SPL pertaining to the thrust bearing parts.

Also note that for all standard arrangements except those furnished with 3-3/4AC, 60ES or 63G motors, these machines have a one-piece worm and motor shaft.

There are also two different brake arrangements that exist on 14AT machines. The early machines (prior to 1937) have the brake pad applied to a shoe that pivots on the brake arm. The later machines (after 1936) have the brake lining applied directly to the brake arm. Each arrangement has a separate page in this SPL, and parts for the two are not interchangeable.

**Leaflet Revisions**

<b>Date Revised</b>	<b>Subject Matter Expert</b>	<b>Reason for Revision</b>
August 17, 2011	Tom Charney	New SPL
August 24, 2011	Tom Charney	p.11 adjusted callout alignment

**Related Drawings**

<b>Drawing No.</b>	<b>Title</b>	<b>Drawing No.</b>	<b>Title</b>
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**Related Documents**

<b>Document ID</b>	<b>Title</b>
<a href="#">SPL C-961D</a>	Type 6430, 6555 and 6573 Brake Magnets DC

**Subject Matter Expert**

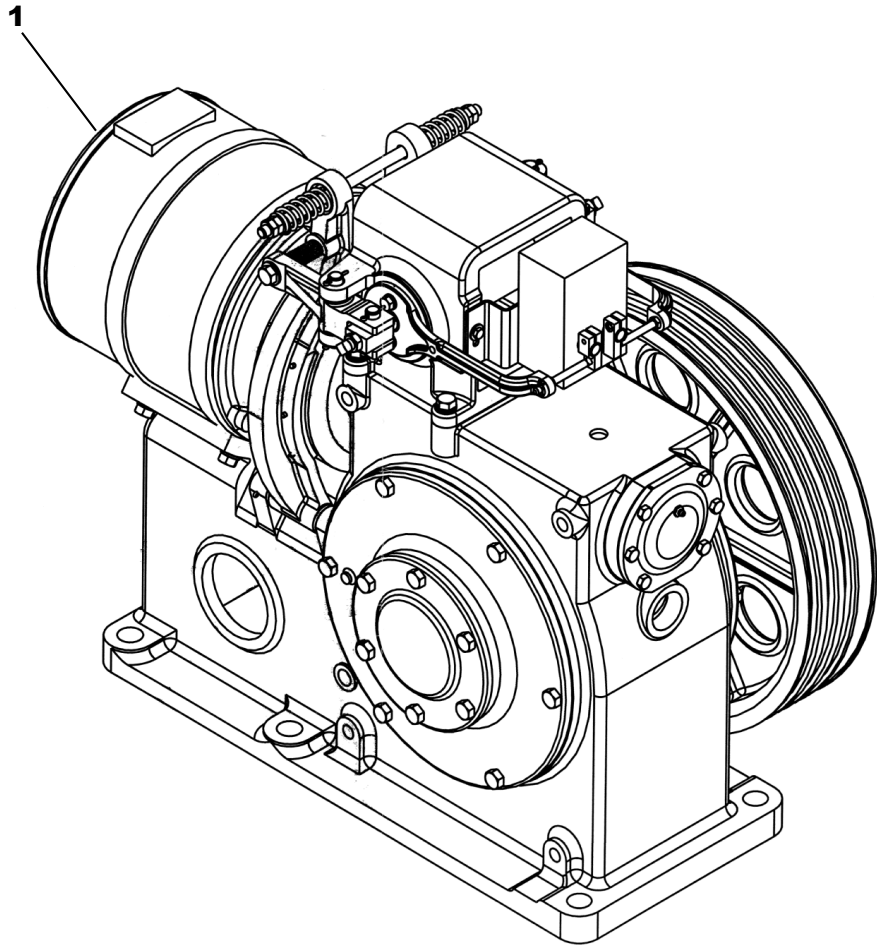
<b>Name</b>	<b>Department</b>
Tom Charney	Mechanical Service Engineering

**About Spare Parts Leaflets...**

This document lists the lowest replaceable units (LRUs) for the standard version of the product. The LRUs are chosen by Otis associates representing engineering and manufacturing.

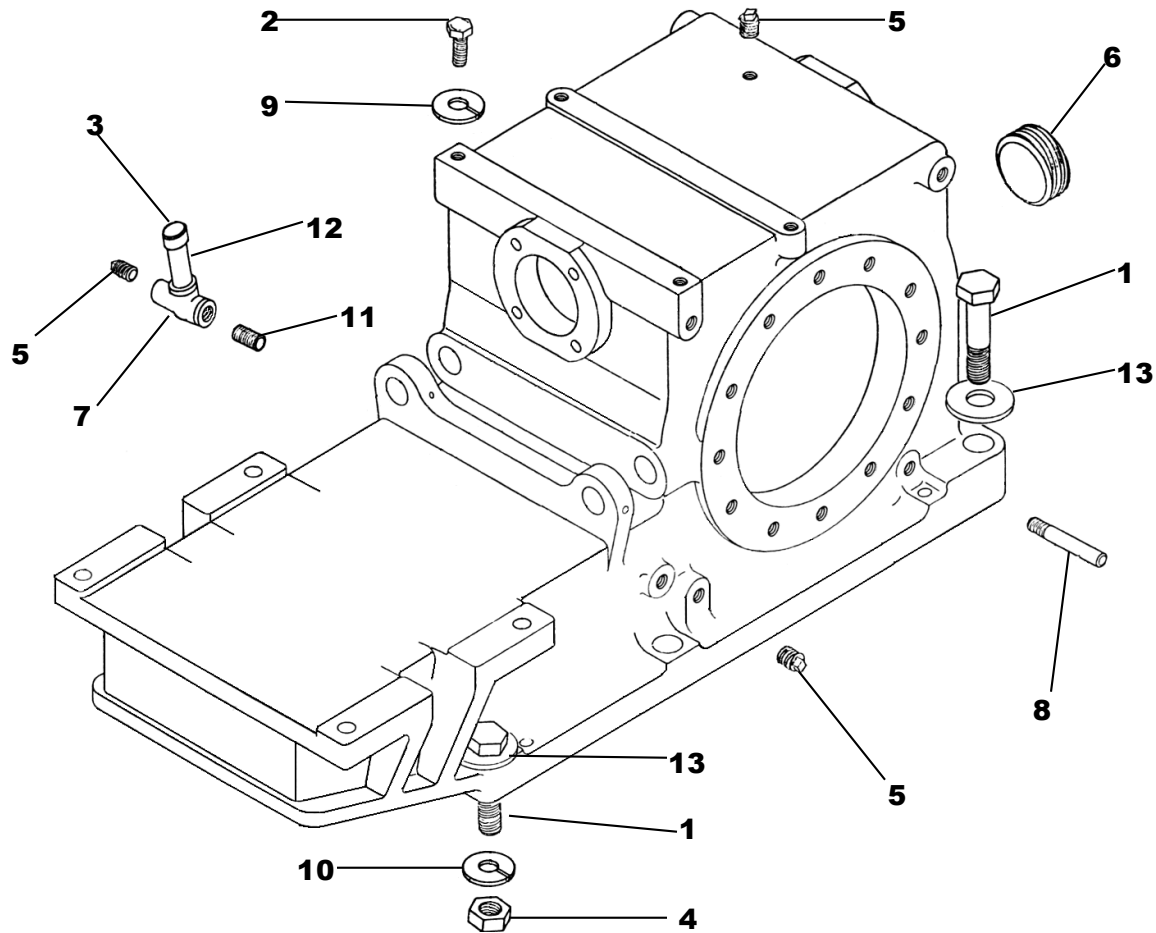
While the goal of this document is to make parts identification as easy as possible, the document cannot be all-inclusive. Elevator and escalator contracts classified as "special" or "custom" are not addressed here. For such contracts, please refer to the machine's Specified Order Forms, TIPs, Field Education Articles, Construction Letters, etc. for further information.

If you have any suggestions about this document, please contact the subject matter expert listed on this page.



	<b>W/O VINTAGE</b>	
<b>REF. No.</b>	<b>MOTOR TYPE</b>	<b>DESCRIPTION</b>
1	Type 1-A/C	<p>New motors of these types are no longer available. For assistance, be able to provide the machine number and all data plate markings from the existing motor.</p> <p>For rotors or stators, call OSC Spare Lending.</p> <p>For Service Parts (Bearings, brushes, etc.), call OSC Customer Service.</p>
	Type 2-1/4 DC	
	Type 3-3/4 AC	
	Type 45F DC	
	Type 49ES AC	
	Type 51G DC	
	Type 53ES AC	
	Type 60ES AC	
	Type 63G DC	

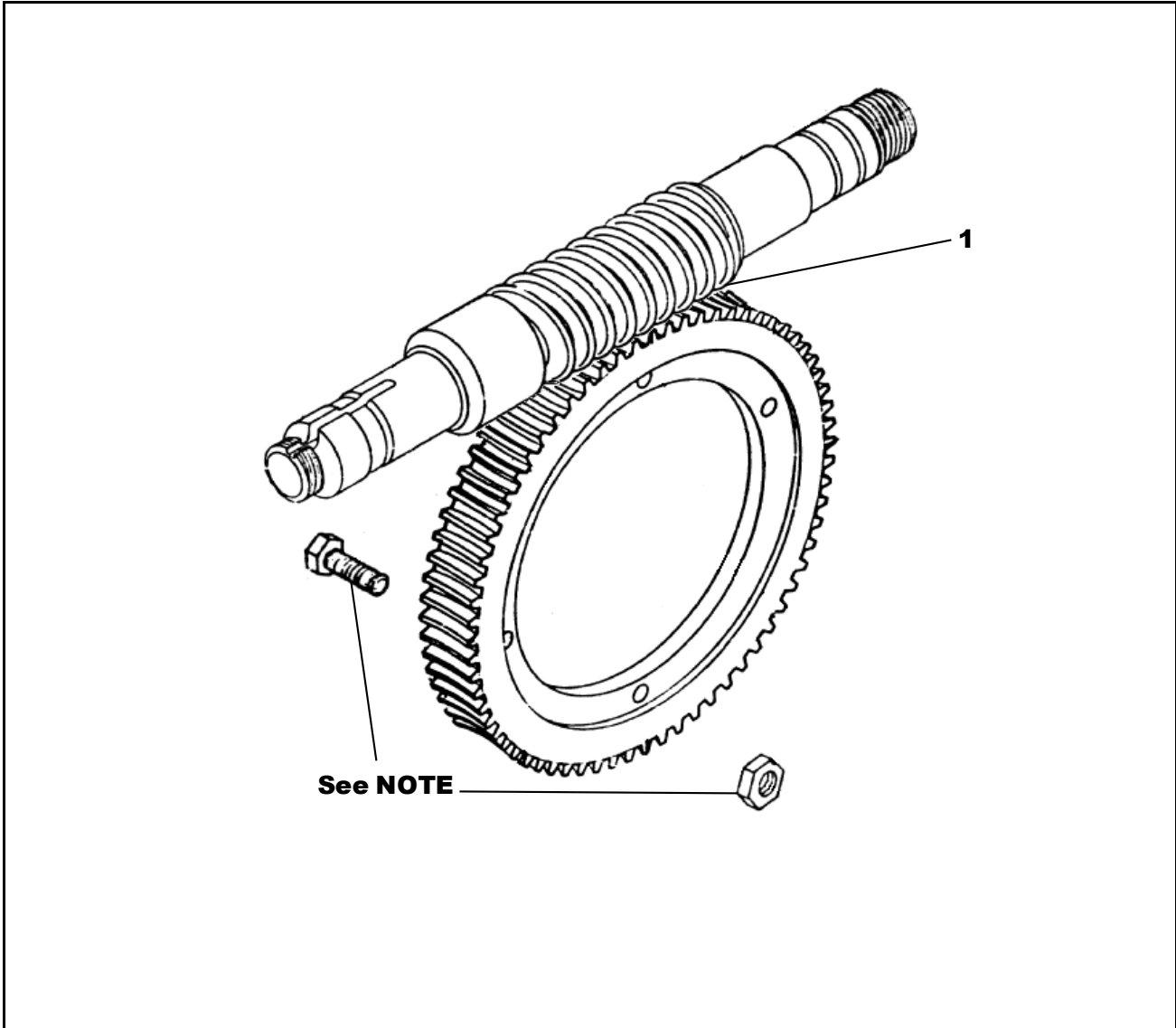
# 14 AT Machine Gearcase Hardware



W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	58XA37	Bolt, 3/4 in.-10x3-1/2 in.
2	58XA141	Bolt, 1/2 in.-13x1-1/4 in.
3	377DE3	Cap, Pipe, 1/2 in.
4	NUT FH3/4-1	Nut, 3/4 in.-10
5	377DF3	Pipe Plug, 1/2 in.
6	<del>813388</del> 377DF11	Pipe Plug, 3-1/2 in.
7	377EG3	Pipe Tee, 1/2 in. x 1/2 in. x 1/2 in.
8	A96J1	Rope Retainer
9	130F29	Washer, Spring Lock, 1/2 in.
10	130F31	Washer, Spring Lock, 3/4 in.
11	377KA8	Tube, 1/2 in. Nipple, 2-1/2 in. Long
12	377KA5	Tube, 1/2 in. Nipple, 3-1/2 in. Long
13	WSR STD3/4	Washer, 3/4 in.

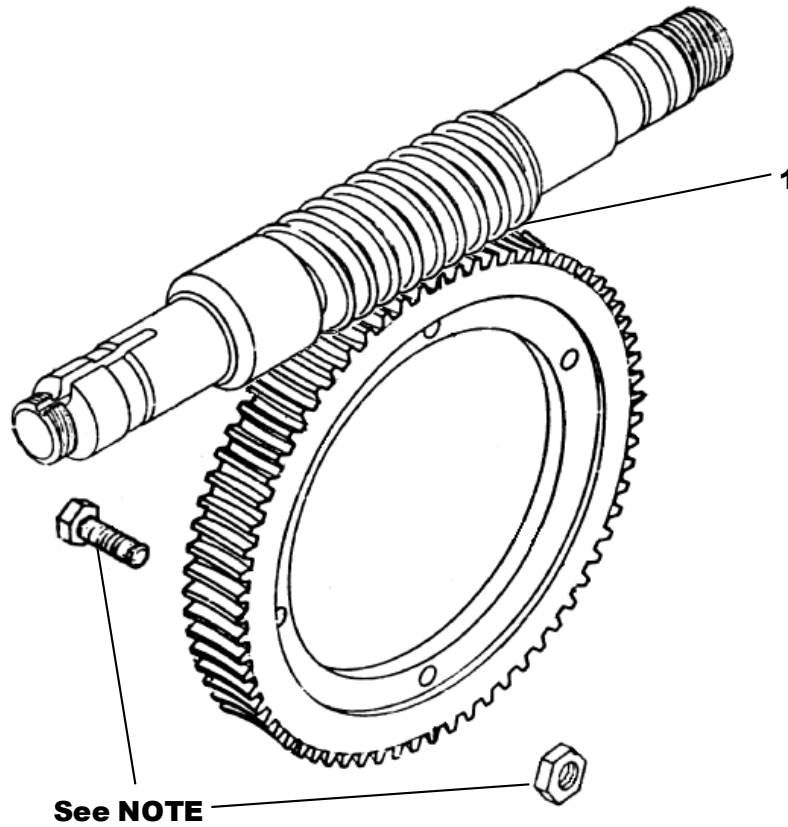
# 14 AT Machine Worm & Gear

**06-6149A**



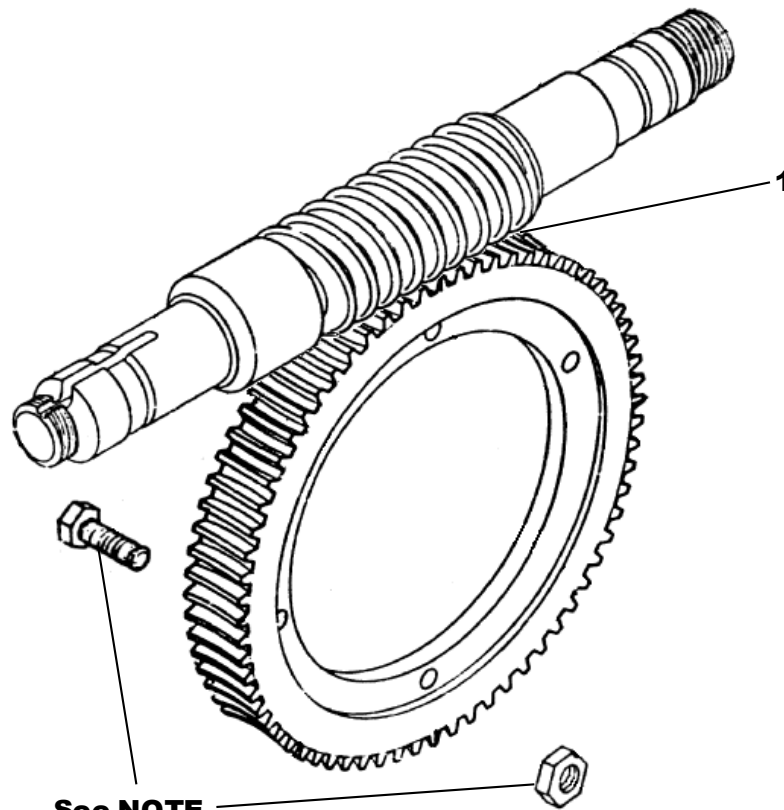
	<b>MOTOR TYPE</b>	<b>1-A/C</b>	<b>49ES</b>	<b>49ES</b>	<b>49ES</b>
	<b>INSTALLATION DATE</b>	<b>ALL</b>	<b>Pre-1957</b>	<b>1957-1964</b>	<b>Post-1964</b>
<b>REF. No.</b>	<b>GEAR RATIO</b>	<b>PART NUMBER</b>			
1	35-1/2:1	490BA2/ 200BG5	490AF2/ 200BG5	490DJ14/ 200BG5	A490DJ14/ 200BG5
	42-1/2:1	490Y2/ 200BG6	A490AG2/ 200BG6	490DJ20/ 200BG6	A490DJ20/ 200BG6
	55:1	490Z2/ 200BG7	A490AE2/ 200BG7	490DJ28/ 200BG7	A490DJ28/ 200BG7
	71:1	490AA2/ 200BG8	A490AH2/ 200BG8	490DJ34/ 200BG8	A490DJ34/ 200BG8

**NOTE:** Nut and Bolt P/N's are 67H9 and 84D10, respectively, (Qty. 6 ea. Required)



	<b>MOTOR TYPE</b>	<b>2-1/4 (45F)</b>	<b>51G</b>	<b>51G</b>	<b>53ES</b>
	<b>INSTALLATION DATE</b>	<b>ALL</b>	<b>Pre-1957</b>	<b>1957-1964</b>	<b>Post-1964</b>
<b>REF. No.</b>	<b>GEAR RATIO</b>	<b>PART NUMBER</b>			
1	27-1/2:1	---	490AR2/ 200BG4	490DJ4/ 200BG4	---
	35-1/2:1	490KA2/ 200BG5	490AP2/ 200BG5	490DK4/ 200BG5	---
	42-1/2:1	490LA2/ 200BG6	A490AM2/ 200BG6	490DM4/ 200BG6	A490DJ42/ 200BG6
	55:1	490PA2/ 200BG7	A490AL2/ 200BG7	490DN4/ 200BG7	---
	71:1	490TA2/ 200BG8	A490AN2/ 200BG8	490DP4/ 200BG8	---

**NOTE:** Nut and Bolt P/N's are 67H9 and 84D10, respectively, (Qty, 6 ea. required)

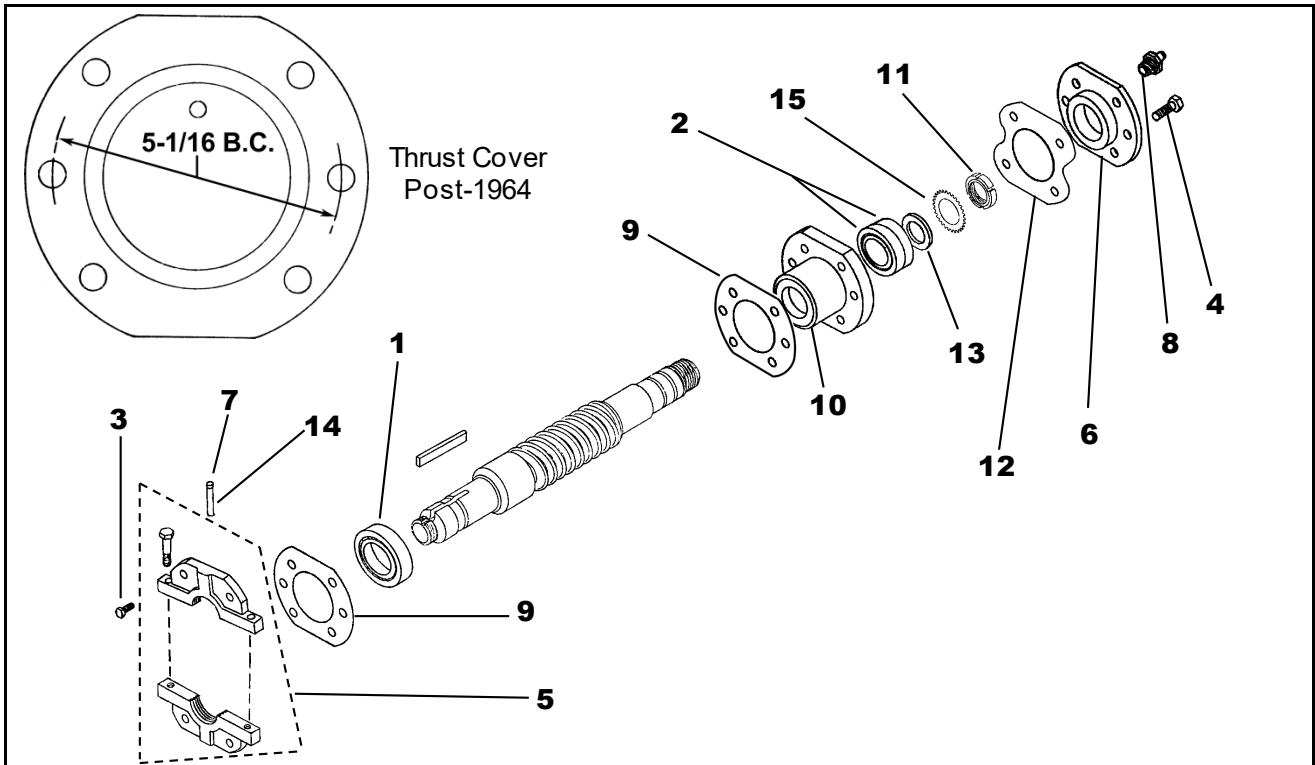
**06-6149A****14 AT Machine Worm & Gear**

	<b>MOTOR TYPE</b>	<b>60ES</b>	<b>60ES</b>	<b>60ES &amp; 63G</b>	<b>60ES &amp; 63G</b>
	<b>INSTALLATION DATE</b>	<b>Pre-1957</b>	<b>1957-1964</b>	<b>1964-1972</b>	<b>Post-1972</b>
<b>REF. No.</b>	<b>GEAR RATIO</b>	<b>PART NUMBER</b>			
1	18-1/3:1	---	---	---	490GY1/ 200BG9
	23-2/3:1	---	---	---	490GY2/ 200BG3
	27-1/2:1	---	490DJ6/ 200BG4	A490DJ6/ 200BG4	490GY3/ 200BG4
	31-1/2:1	---	---	---	490GY4/ 200BG1
	35-1/2:1	490AF6/ 200BG5	490DJ18/ 200BG5	A490DJ18/ 200BG5	490GY5/ 200BG5
	42-1/2:1	---	490DJ24/ 200BG6	A490DJ24/ 200BG6	490GY6/ 200BG6
	46:1	---	---	---	490GY7/ 200BG2
	55:1	A490AE6/ 200BG7	490DJ32/ 200BG7	A490DJ32/ 200BG7	490GY8/ 200BG7
	71:1	---	---	---	490GY9/ 200BG8

**NOTE:** Nut and Bolt P/N's are 67H9 and 84D10, respectively, (Qty, 6 ea. Required)

# 14 AT Machine Worm Shaft Parts

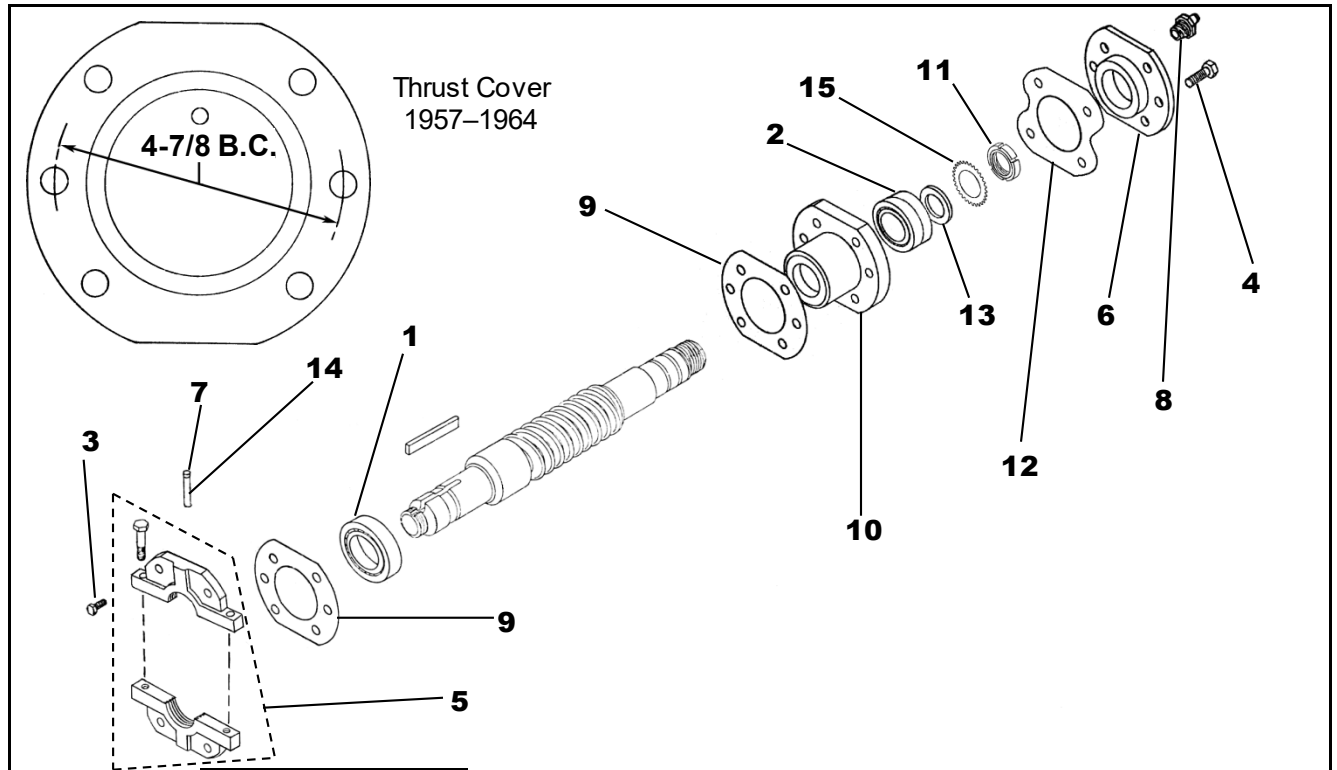
**06-6149A**



**W/O VINTAGE  
(Post-1964)**

REF. No.	PART No.	DESCRIPTION
1	207Z52	Bearing, Inside
2	209W3	Bearing, Thrust (Order Quantity: 2)
3	58XA125	Bolt, 3/8 in.-16x1 in.
4	58XA7	Bolt, 3/8 in.-16x1-3/4 in.
5	A346YM1	Cover, Inside
6	A346YN1	Cover, Thrust
7	435D1	Fitting, Lubricator, Brake End
8	435C1	Fitting, Lubricator, Thrust
9	A376Y1	Gasket
10	A396DJ1	Housing, Thrust
11	72BV7	Nut, Thrust
12	A376W1	Shim, Thrust Cover, .0075 in. Thick
	A376W2	Shim, Thrust Cover, .003 in. Thick
	A376W3	Shim, Thrust Cover, .02 in. Thick
13	127VB116	Spacer, Thrust
14	---	Tube, 1/8 in. Nipple, 2-1/2 in. Long
15	130AA10	Washer, Thrust

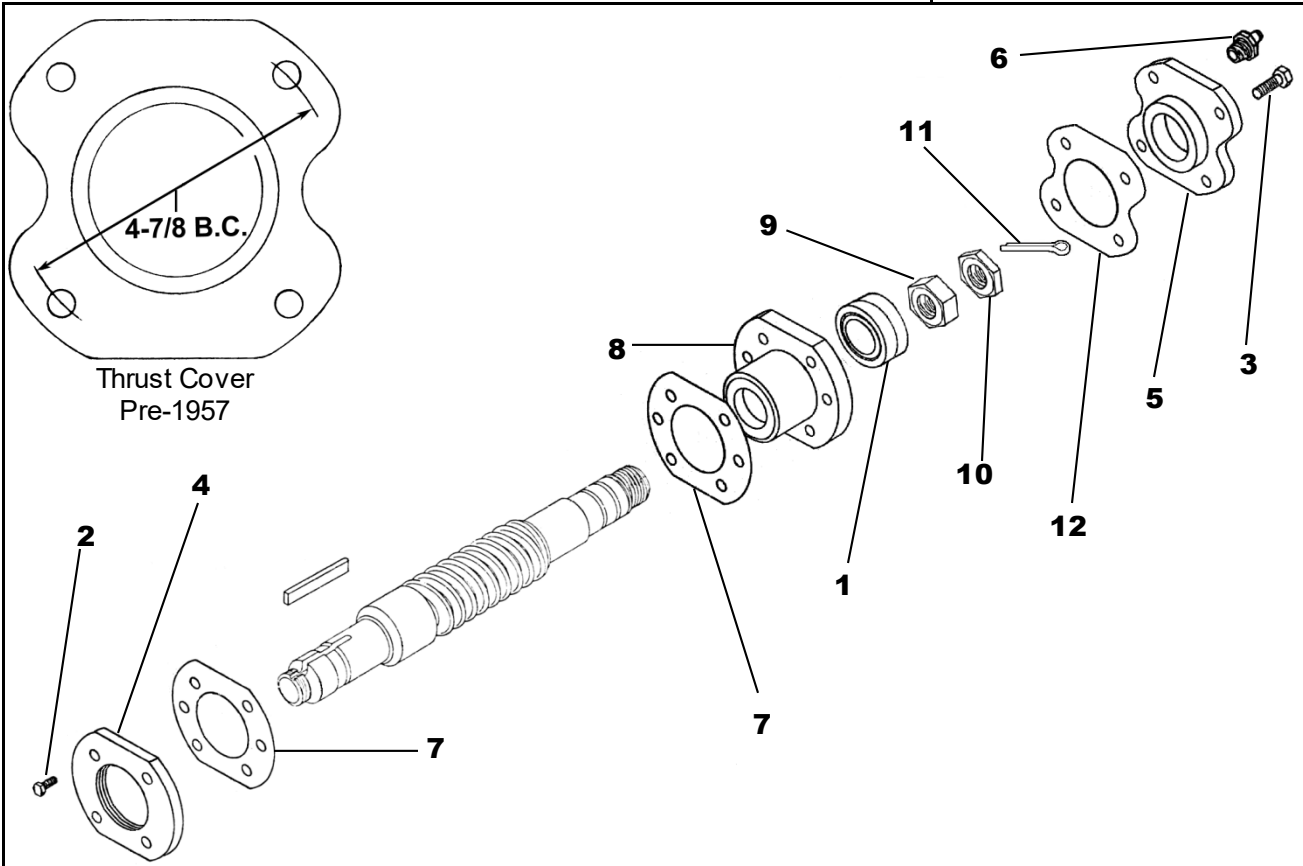


**06-6149A****14 AT Machine Worm Shaft Parts****W/O VINTAGE  
(1957-1964)**

<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
1	207AF6	Bearing, Inside
2	207AR7	Bearing, Thrust
3	58XA125	Bolt, 3/8 in.-16x1 in.
4	58XA7	Bolt, 3/8 in.-16x1-3/4 in.
5	346YM1	Cover, Inside
6	346YN1	Cover, Thrust
7	435D1	Fitting, Lubricator, Brake End
8	435C1	Fitting, Lubricator, Thrust
9	376Y1	Gasket
10	396DJ1	Housing, Thrust
11	72BV8	Nut, Thrust
12	376W1	Shim, Thrust Cover, .0075 in. Thick
	376W2	Shim, Thrust Cover, .003 in. Thick
	376W3	Shim, Thrust Cover, .02 in. Thick
13	462W46	Spacer, Thrust
14	---	Tube, 1/8 in. Nipple, 2-1/2 in. Long
15	130AA8	Washer, Thrust

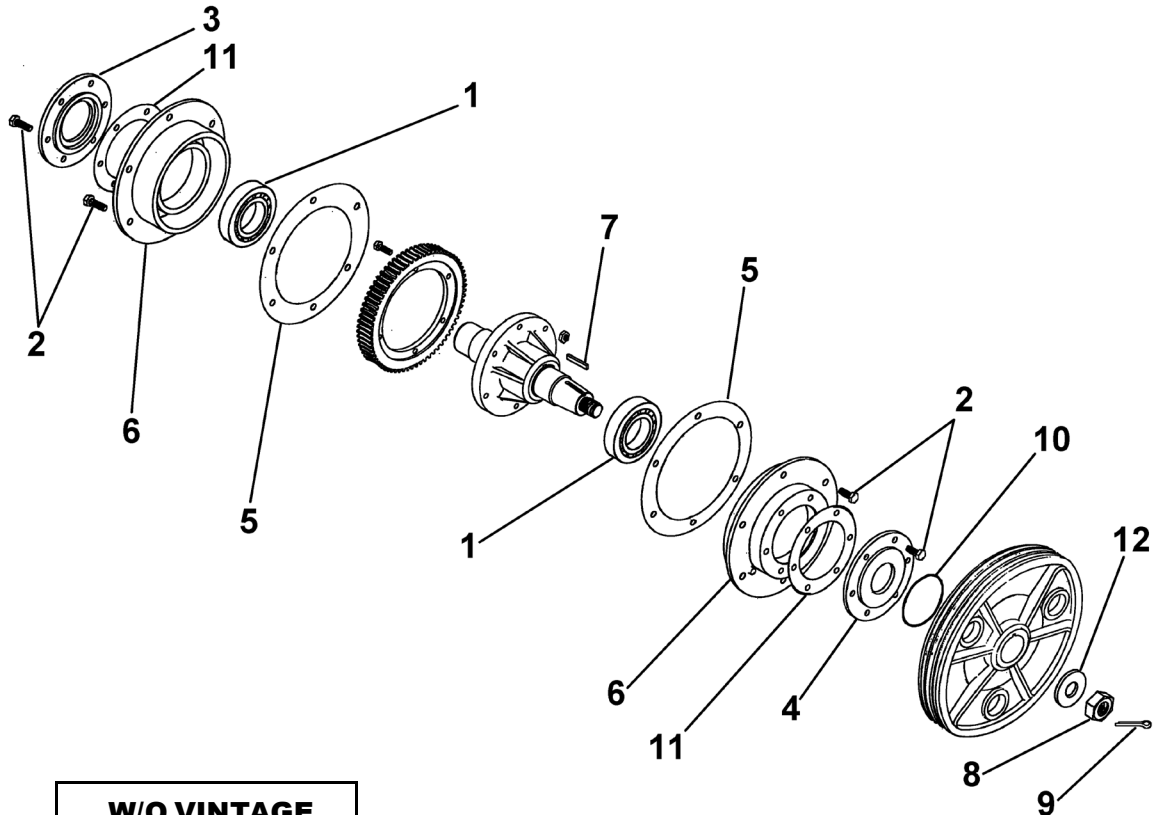
# 14 AT Machine Worm Shaft Parts

06-6149A



**W/O VINTAGE (Pre-1957)**

REF. No.	PART No.	DESCRIPTION
1	207W9	Bearing, Thrust
2	58XA125	Bolt, 3/8 in.-16 x 1 in.
3	58XA7	Bolt, 3/8 in.-16 x 1-3/4 in.
4	346GC1	Cover, Inside
5	<del>346HC1</del> A346HC1	Cover, Thrust
6	435C1	Fitting, Lubricator, Thrust
7	376Y1	Gasket
8	396FA1	Housing, Thrust
9	70F10	Nut, Thrust, 1-1/8 in.-12
10	NUT FHJ1-1/8-12 ZP	Nut, Jam, Thrust, 1-1/8 in.-12
11	PIN COT1/8X1-1/2	Pin, Cotter, 1/8 in.
12	376W1	Shim, Thrust Cover, .0075 in. Thick
	376W2	Shim, Thrust Cover, .003 in. Thick

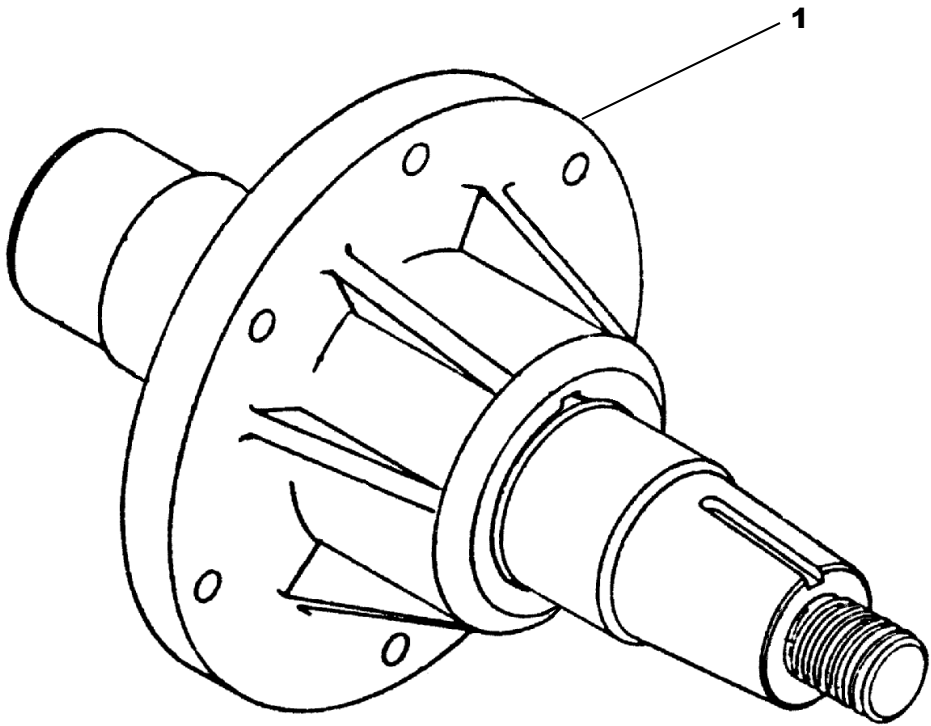


W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	209B10	Bearing
2	58XA141	Bolt, 1/2 in.-13x1-1/4 in.
3	346CC1	Cover, Gearcase Side
4	346FC1	Cover, Sheave Side
5	376T1	Gasket
6	396GA1	Housing, Concentric (w/o boss) see <b>NOTE</b>
	A396GA1	Housing, Eccentric (w/ boss) see <b>NOTE</b>
7	192D16	Key, Sheave Shaft
8	NUT FHJ1-1/2-12 ZP	Nut, Jam, Sheave Shaft, 1-1/2 in.-12
9	VP-833225	Pin, Cotter, 3/16 in.
10	33B10	Seal, Sheave Shaft
11	255JA1	Shim, .005 in. Thick
	255JA2	Shim, .007 in. Thick
	255JA3	Shim, .02 in. Thick
12	127WB1	Washer, Sheave Shaft

**NOTE:** Eccentric housing, p/n A396GA1, is a direct fit replacement for the concentric housing, p/n 396GA1, if both sides are replaced only. Use of the eccentric housing will facilitate adjustment of gear lash, if required.

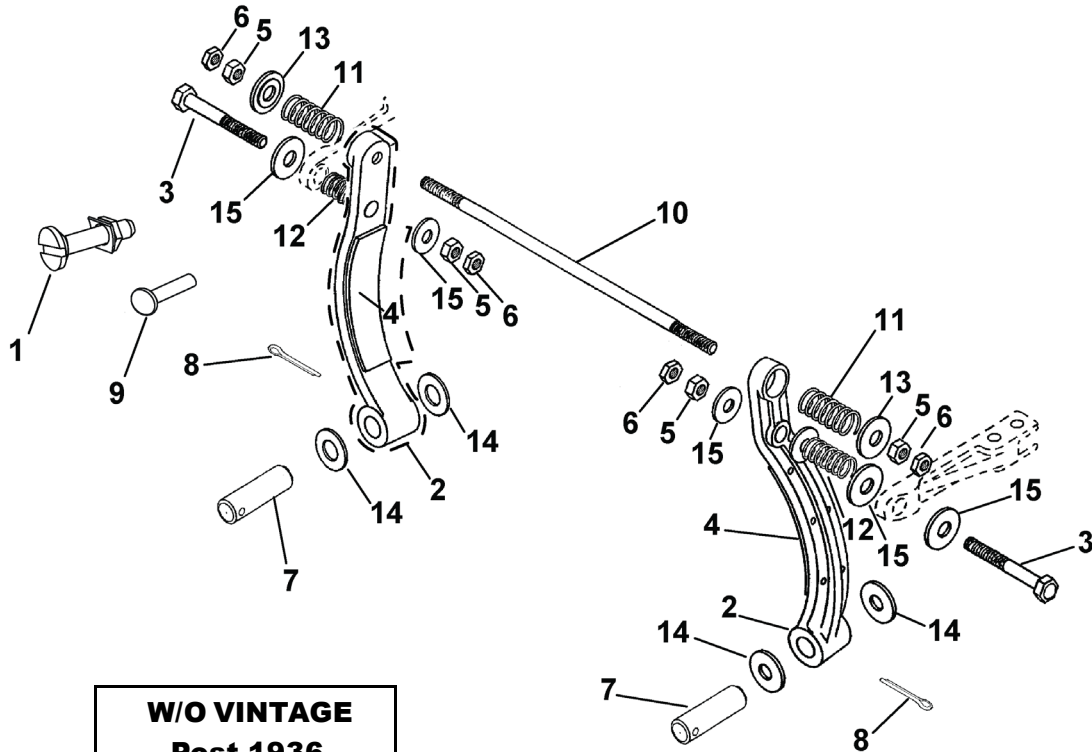
# 14 AT Machine Sheave Shaft

**06-6149A**



		<b>W/O VINTAGE</b>
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
1	500F3	Sheave Shaft (Straight fit to Sheave). <b>See NOTE.</b>
	B500F6 <del>C500F9</del> C500F6	Sheave Shaft (Taper fit to Sheave)

**NOTE:** Only for use when existing sheave is retained. When replacing both shaft and sheave, order C500F6 shaft and appropriate tapered bore sheave.

**06-6149A****14 AT Brake Arms**

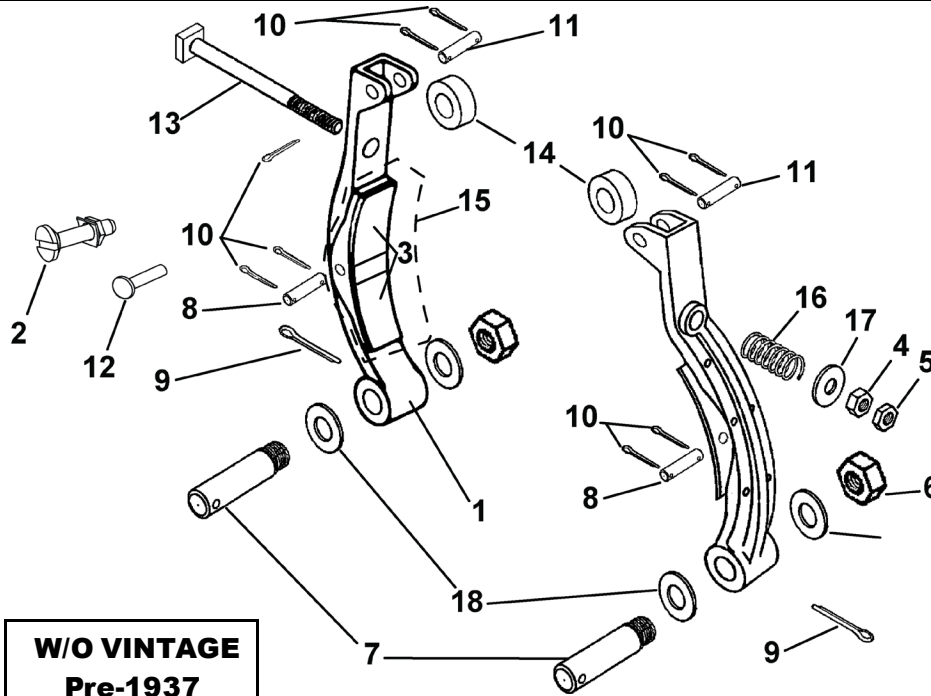
**W/O VINTAGE  
Post-1936**

REF. No.	PART No.	DESCRIPTION
1	AAA124FH1	Bolt, for Lining (alternate for 145C2 rivet)
2	A286B1	Arm, Brake (with lining) See <b>NOTE</b>
3	58XA195	Bolt, 1/2 in.-13x5-1/2 in.
4	B416B1	Lining
5	NUT FH1/2CP	Nut, 1/2 in.-13
6	NUT FHJ1/2CP	Nut, Jam, 1/2 in.-13
7	82W1	Pin, Brake
8	PIN COT1/8X1CP	Pin, Cotter, 1/8 in.x1.0 in.
9	145C2	Rivet, for Lining (alternate for AAA124FH1 bolt)
10	40114	Rod
	96CJ3	
11	90FC3	Spring, Brake, 3 in. Long
	90CC2	Spring, Brake, 3-1/2 in. Long
12	90MB16	Spring, Magnet Arm
13	<del>810649</del>	Washer, Brake Spring
	133G9	
14	WSR SAE5/8	Washer, Gearcase, 5/8 in.
15	WSR STD1/2	Washer, Magnet Arm, 1/2 in.

**NOTE:** For brake relining, contact OSC Spare Lending or see [TIP 6.0-1, Replacement of Brake Linings](#).

# 14 AT Brake Arms

06-6149A



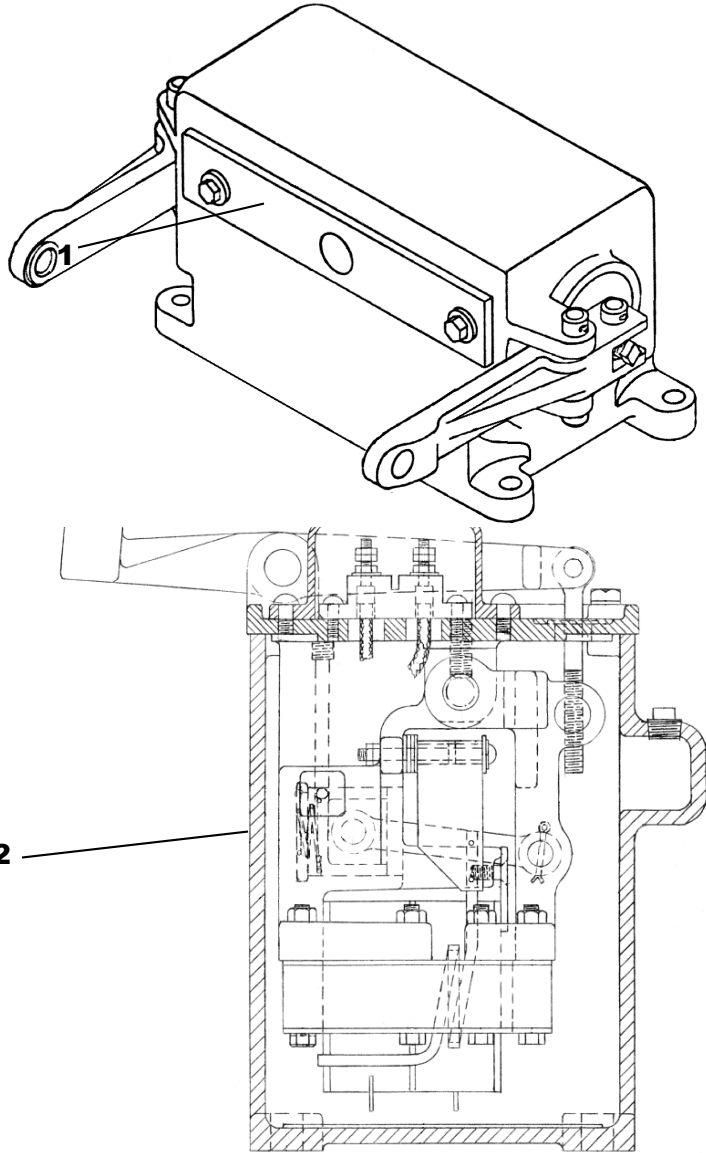
**W/O VINTAGE  
Pre-1937**

REF. No.	PART No.	DESCRIPTION
1	286B1	Arm, Brake
2	AAA124FH1	Bolt, for Lining (alternate for 415C2 rivet)
3	416B1	Lining (2 required per shoe)
4	NUT FH1/2CP	Nut, 1/2 in.-13
5	NUT FHJ1/2CP	Nut, Jam, 1/2 in.-13
6	NUT FHJ3/4-10	Nut, Jam, 3/4 in.-10
7	77CB1	Pin, Brake
8	82C1	Pin, Brake Shoe
9	PIN COT1/8X1CP	Pin, Cotter, 1/8 in.x1.0 in.
10	VP-833146	Pin, Cotter, 1/16 in.
11	80791	Pin, Roller
12	415C2	Rivet, for Lining (alternate for AAA124FH1 bolt)
13	60D43	Rod, Square
14	143518	Roller
15	415A2	Shoe, Brake (with lining) See <b>NOTE</b>
16	<del>89492</del> 90FC3	Spring, Brake, 3 in. Long
	811154 90CC2	Spring, Brake, 3-1/2 in. Long
17	<del>810649</del> 133G9	Washer, Brake Spring
18	WSR SAE5/8	Washer, Gearcase, 5/8 in.

**NOTE:** For brake relining, contact OSC Spare Lending or see [TIP 6.0-1, Replacement of Brake Linings](#).

**06-6149A**

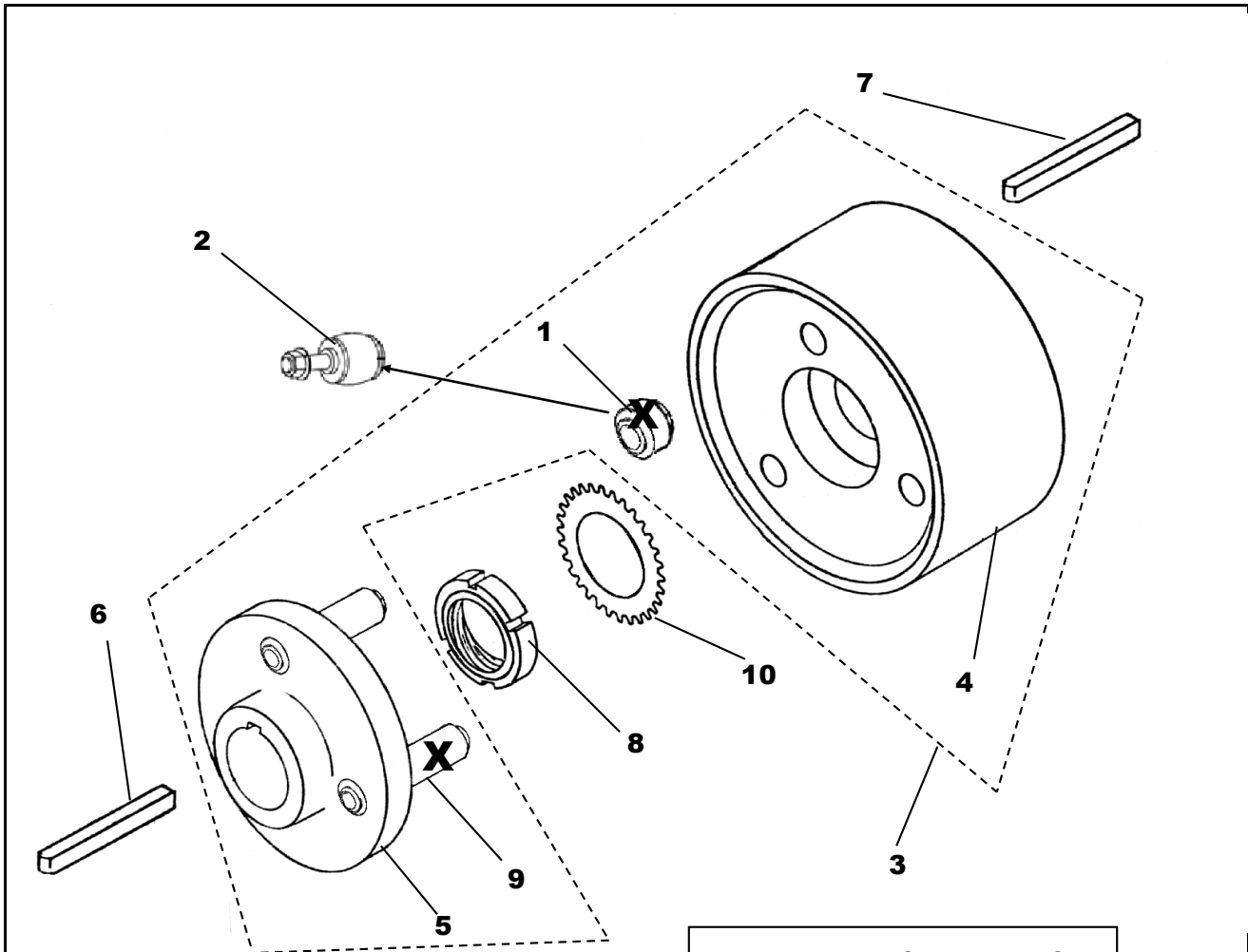
# 14 AT Machine Brake Magnet



W/O VINTAGE			
REF. No.	PART No.	TYPE	DESCRIPTION
1	---	B6430A	SPL C-961D
	---	6430A	
	---	6430C	
2	---	6148A	Call OSC and provide machine number.

# 14 AT Brake Coupling, Flexible

**06-6149A**

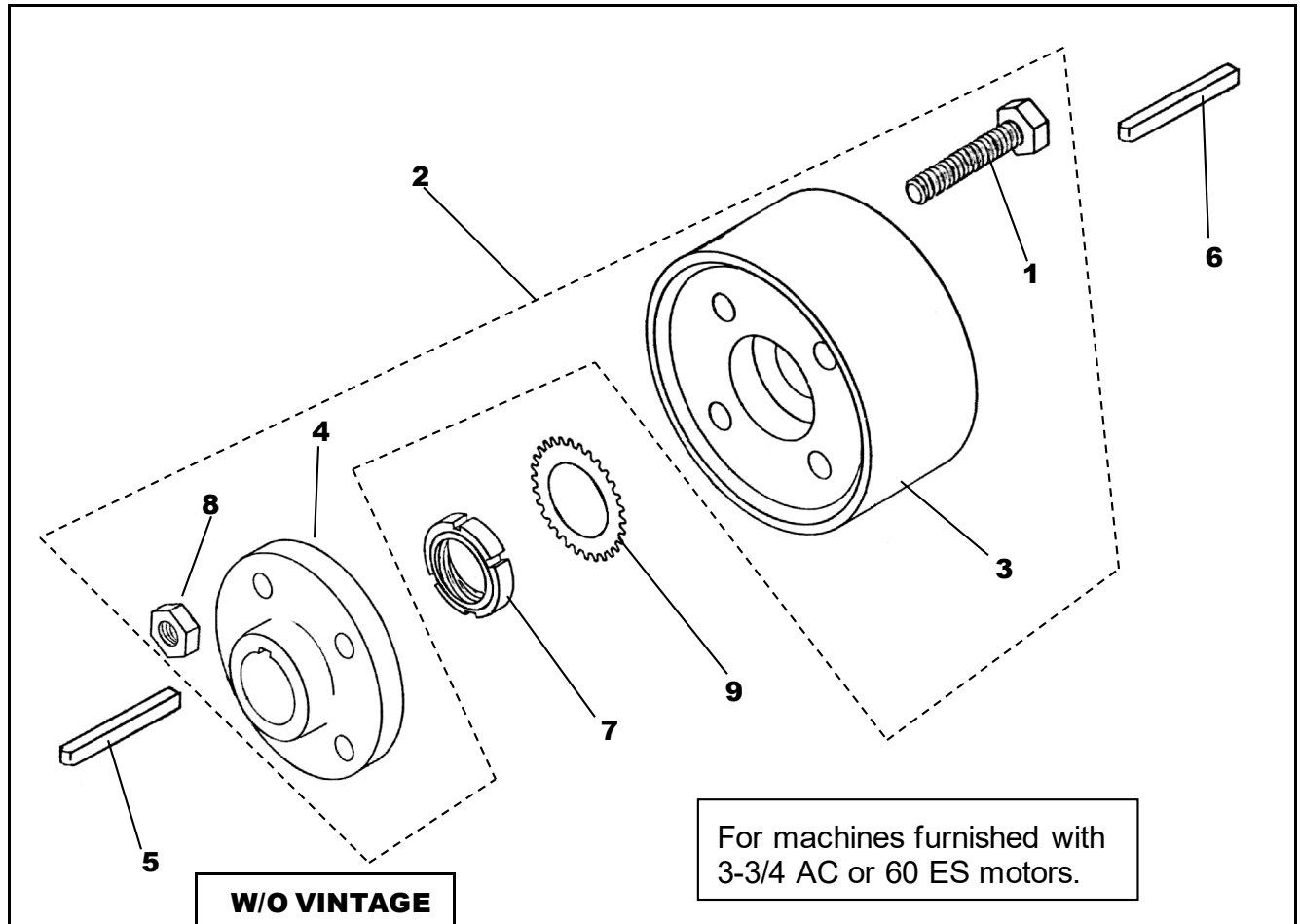


For machines furnished after 1972 with 63G motors.

W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	456C5	Bushing.  NOTE.
2	AAA65KN4	Bushing Bolt.  NOTE
3	6149BB1	Coupling, Brake, Complete
4	215BB2	Coupling, Female
5	215BC2	Coupling, Male
6	192D13	Key, Motor Shaft
7	192D17	Key, Worm Shaft
8	72BV7	Nut, Coupling to Worm Shaft
9	78FA44	Pin, Coupling.  NOTE.
10	130AA10	Washer, Coupling

**NOTE:** 456C5 and 78FA41 are replaced by AAA65KN4

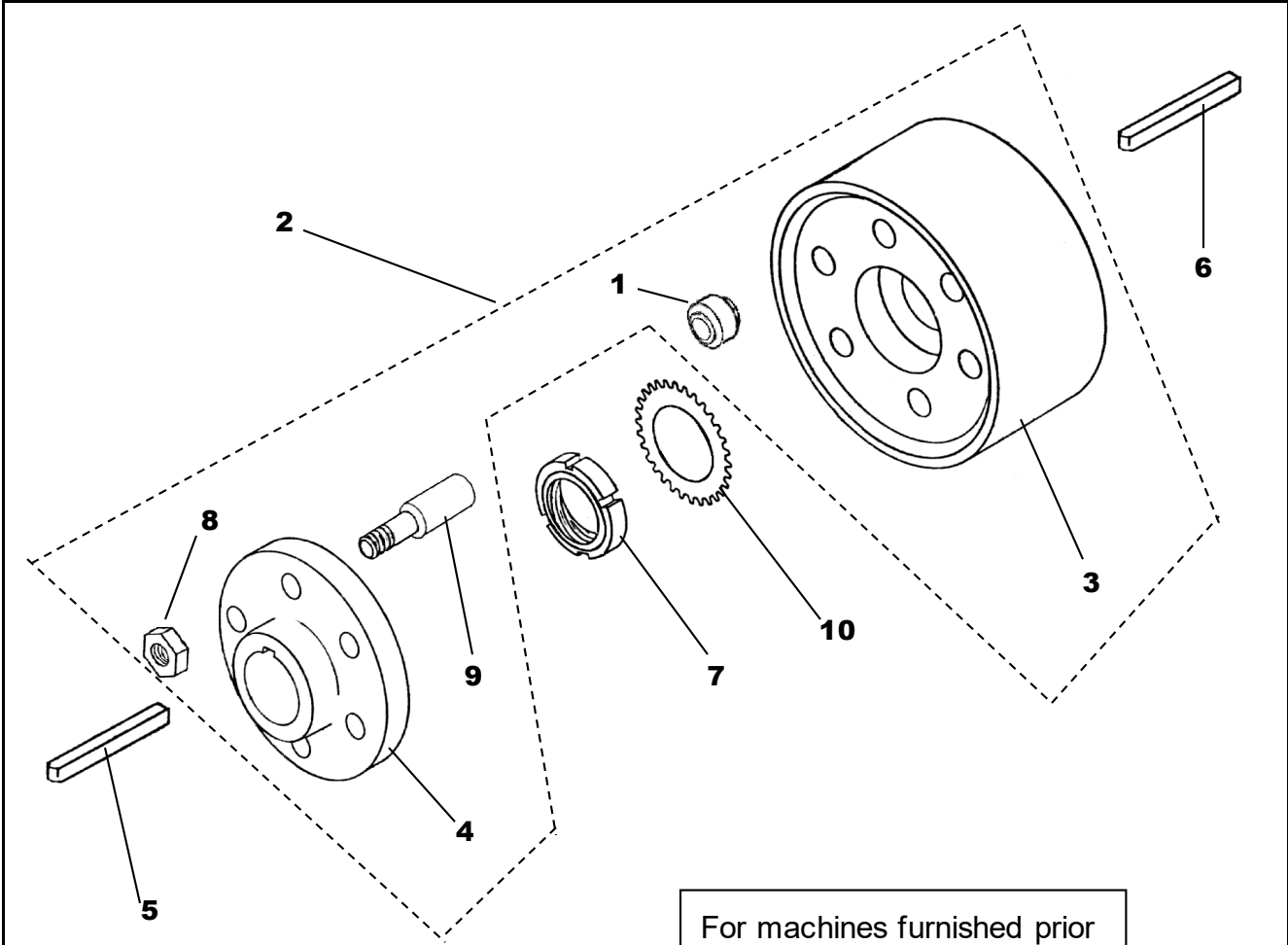


**14 AT Brake Coupling, Solid**

<b>W/O VINTAGE</b>		
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
1	83B5	Bolt, Coupling
2	6149BD1	Coupling, Brake, Complete, 60ES Motor (Furnished after to 1972)
	216AB3	Coupling, Brake, Complete, 60ES Motor (Furnished prior to 1973)
	216AB4	Coupling, Brake, Complete, 3-3/4 AC Motor
3	215BD1	Coupling, Female, furnished after 1972
	216AB1	Coupling, Female, furnished prior to 1973
4	215BE1	Coupling, Male, for 60ES Motor furnished after 1972
	216AD2	Coupling, Male, for 60ES Motor furnished prior to 1973
	216AD3	Coupling, Male, for 3-3/4 AC Motor
5	192D13	Key, Motor Shaft, 60ES Motor
	192D18	Key, Motor Shaft, 3-3/4 AC Motor
6	192D14	Key, Worm Shaft
7	72BV7	Nut, Coupling to Worm Shaft
8	67H2	Nut, Lock
9	130AA10	Washer, Coupling

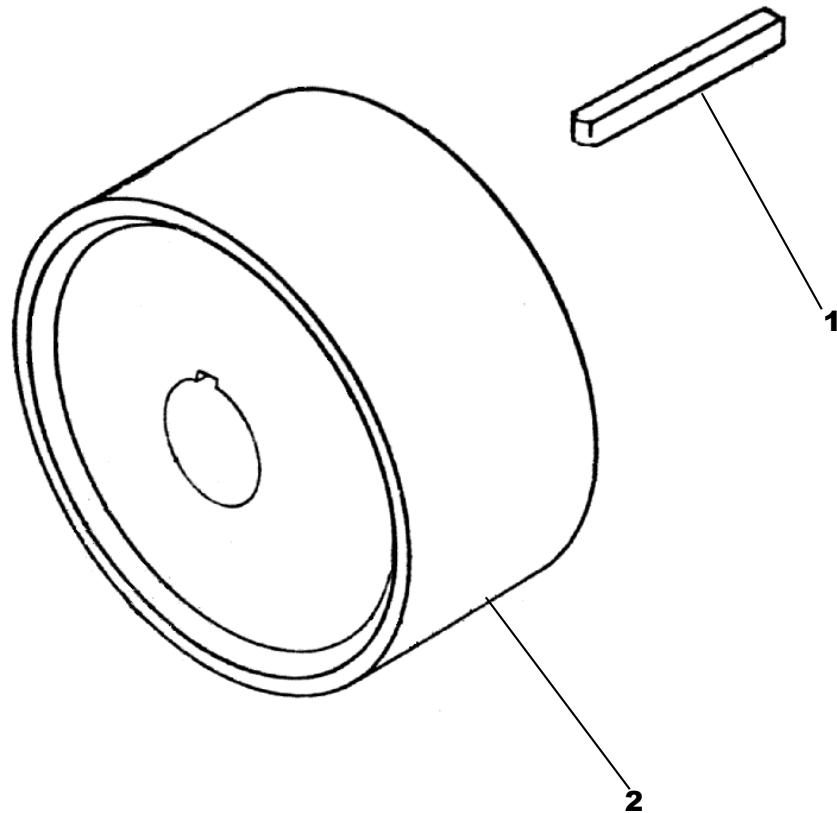
# 14 AT Brake Coupling, Flexible

**06-6149A**



For machines furnished prior to 1973 with 63G motors.  
(International Only)

W/O VINTAGE		
REF. No.	PART No.	DESCRIPTION
1	321CJ1	Bushing
2	6149AT1	Coupling, Brake, Complete
3	215AF1	Coupling, Female
4	215AE1	Coupling, Male
5	192D13	Key, Motor Shaft
6	192D14	Key, Worm Shaft
7	72BV7	Nut, Coupling to Worm Shaft
8	---	Nut, Included with Ref. 9
9	95BT1	Pin, Coupling
10	130AA10	Washer, Coupling

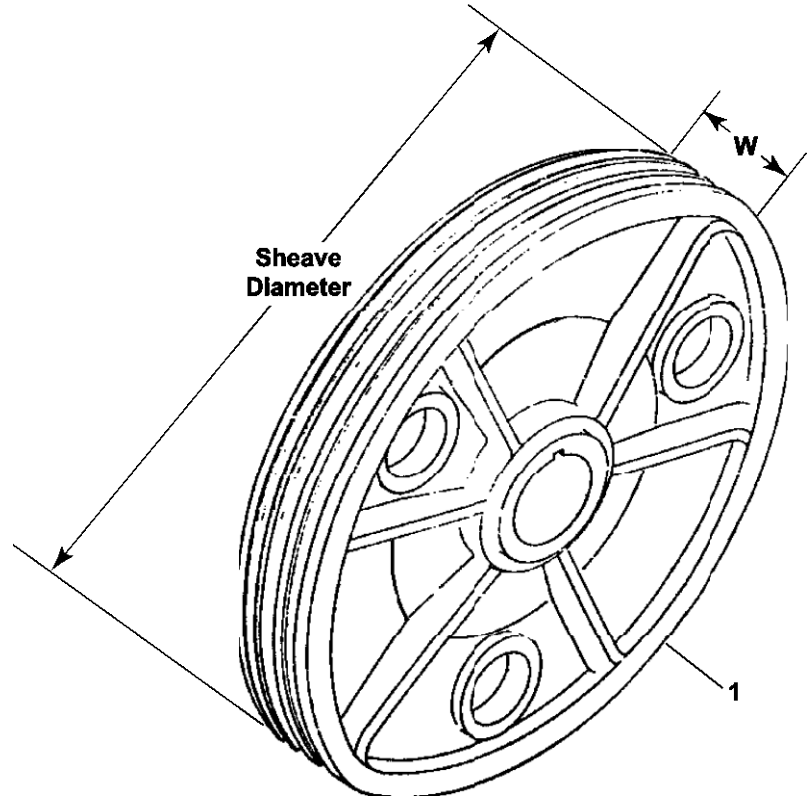
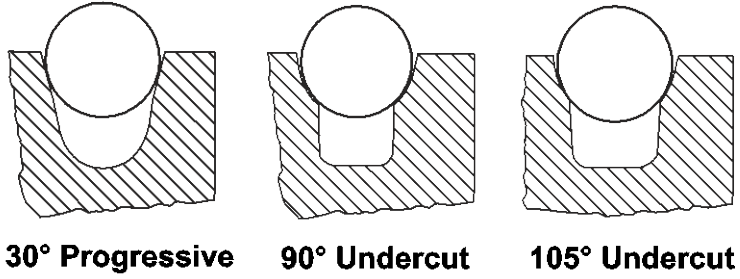


For machines furnished with one-piece worm and motor shafts, 1-A/C, 2-1/4 DC, 45F, 49ES, 51G & 53ES motors.

<b>W/O VINTAGE</b>		
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
1	192G30	Key, Brake Drum
2	196D1	Pulley, Brake, 7-7/8 in. Outer Diameter
	A196D1	Pulley, Brake, 10 in. Outer Diameter

# Drive Sheave, 18 in. Diameter

**06-6149A**

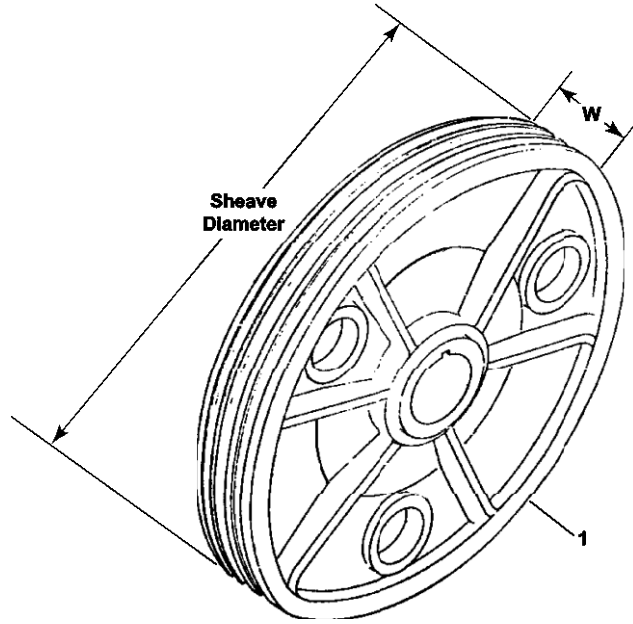
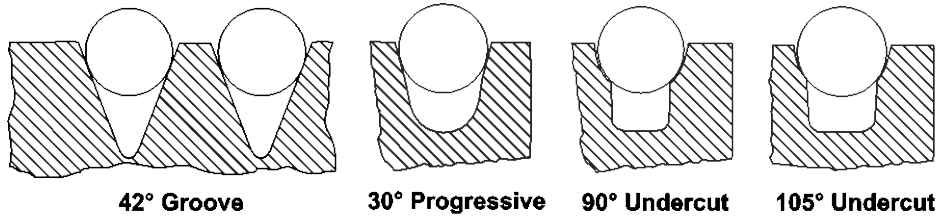


W/O VINTAGE		PART No.		DESCRIPTION					
REF. No.	PROGRESSIVE GROOVE TYPE	UNDERCUT GROOVE TYPE		ROPES		RIM WIDTH "W" (in.)	TAPE GROOVE	SHEAVE DIAMETER (in.)	BORE TYPE
	30°	90°	105°	No.	DIA (in.)				
1	260BK1	260BK2	260BK3	3	1/2	3	W/O	18	TAPERED
	260BK7	260BK8	260BK9	2					
	260BK4	260BK5	260BK6	3	3/8				
	260BK10	260BK11	260BK12	2					
	260BK13	260BK14	260BK15		5/16				

**NOTE:** For further information on identification of groove type, consult original layout drawing or see [TIP 10.0-9, Sheave Groove Undercut Gauge](#).

**06-6149A**

**Drive Sheave, 20 in. Diameter**

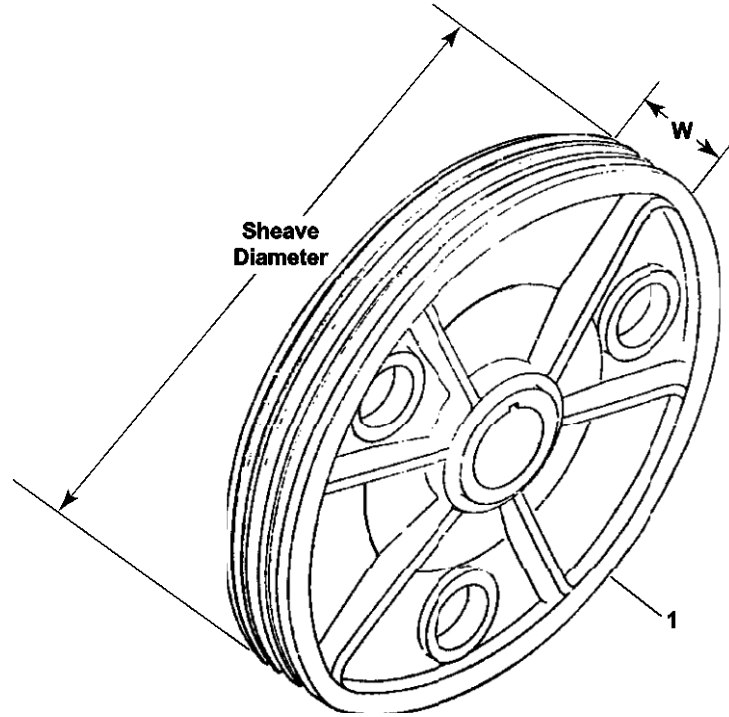
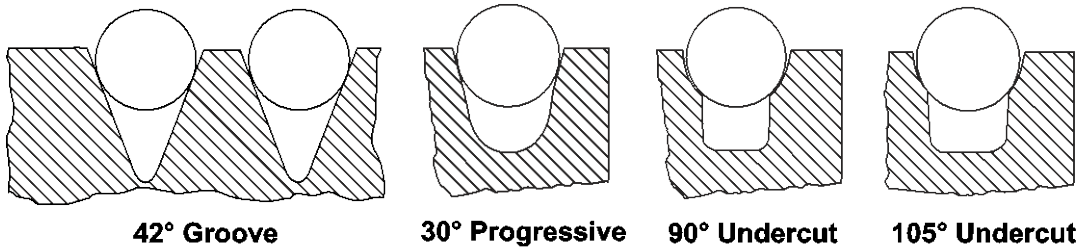


W/O VINTAGE										
PART No.					DESCRIPTION					
REF. No.	GROOVE TYPE	PROGRESSIVE GROOVE TYPE	UNDERCUT GROOVE TYPE		ROPES		RIM WIDTH "W" (in.)	TAPE GROOVE	SHEAVE DIAMETER (in.)	BORE TYPE
	42°	30°	90°	105°	No.	DIA (in.)				
1	---	---	---	C260A13	3	1/2	4	W/	20	TAPERED
	C260A1	C260A2	C260A3	C260A4	4					
	C260A5	C260A6	C260A7	C260A8	3	3/8				
	---	260BJ1	260BJ2	260BJ3	2	1/2	3	W/O		
	---	260BJ7	260BJ8	260BJ9	3	3/8				
	---	260BJ4	260BJ5	260BJ6	2	5/16				
	---	260BJ10	260BJ11	260BJ12	3					
	---	260BJ13	260BJ14	260BJ15	2					

**NOTE:** For further information on identification of groove type, consult original layout drawing or see [TIP 10.0-9, Sheave Groove Undercut Gauge](#)

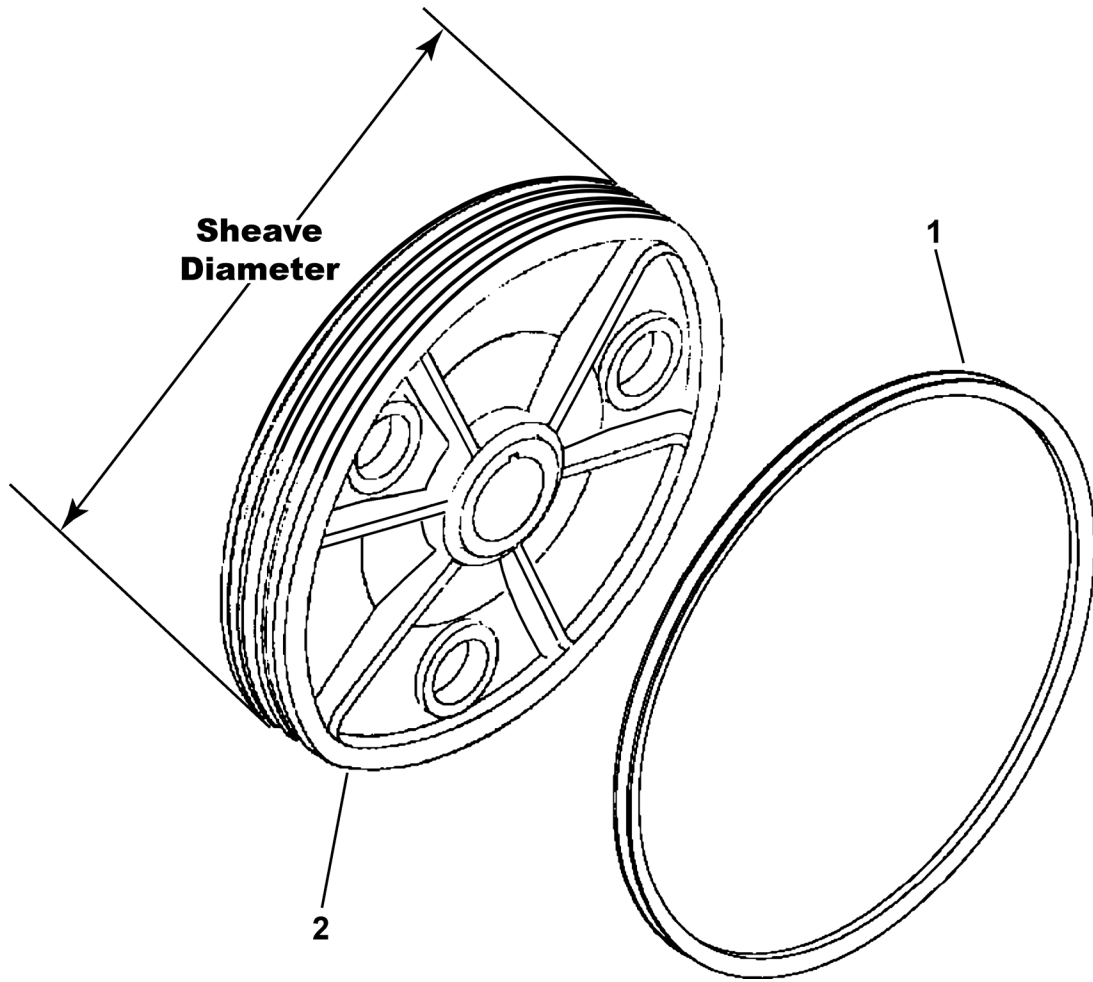
# Drive Sheave, 20 in. Diameter

06-6149A



W/O VINTAGE										
REF. No.	PART No.				DESCRIPTION					
	GROOVE TYPE	PROGRESSIVE GROOVE TYPE	UNDERCUT GROOVE TYPE		ROPES		RIM WIDTH "W" (in.)	TAPE GROOVE	SHEAVE DIAMETER (in.)	BORE TYPE
	42°	30°	90°	105°	No.	DIA (in.)				
1	260A1	260A2	260A3	260A4	3	1/2	3	W/O	20	STRAIGHT
	A260A1	A260A2	A260A3	A260A4						
	B260A1	B260A2	B260A3	B260A4						
	A260A5	A260A6	A260A7	A260A8	4					
	B260A5	B260A6	B260A7	B260A8						
	B260A9	B260A10	B260A11	B260A12	3	3/8				

**NOTE:** For further information on identification of groove type, consult original layout drawing or see [TIP 10.0-9, Sheave Groove Undercut Gauge](#)



		<b>W/O VINTAGE</b>
<b>REF. No.</b>	<b>PART No.</b>	<b>DESCRIPTION</b>
1	251BT1 <del>B251BT1</del> AAA251BT1	Liner, Treaded
	251BT2	Liner, Smooth
2	260BV1	Drive Sheave, 20 in. Diameter with tapered bore, grooved for three liners