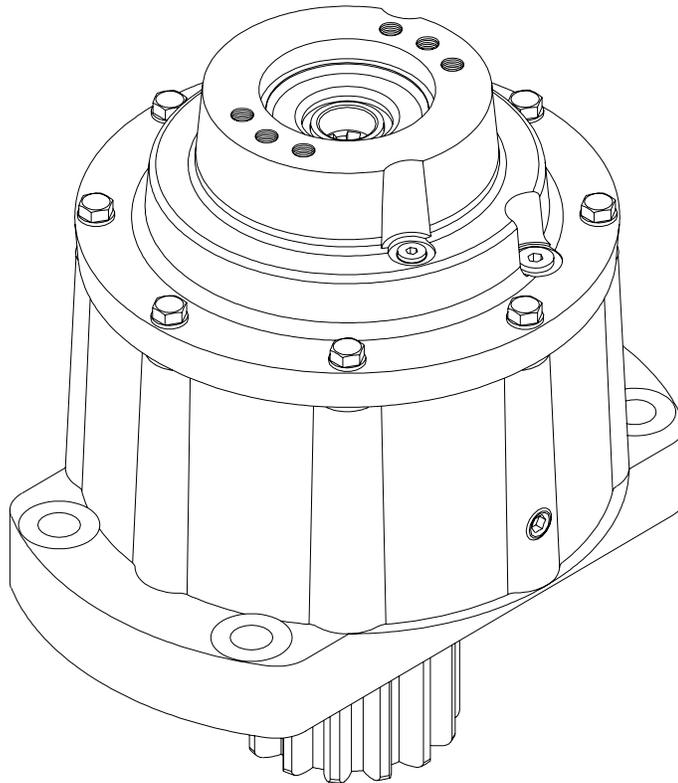
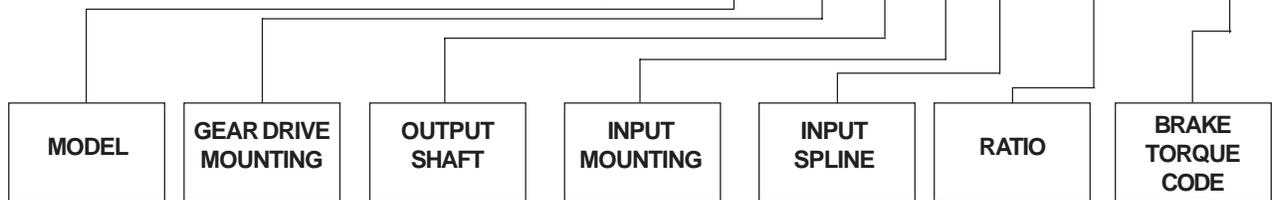


# ESKRIDGE



Part Number Example: **105 E D1 A 3 - 26 B044**



## 105E PLANETARY GEAR DRIVE WITH INTEGRAL BRAKE SERVICE & REPAIR MANUAL

THIS SERVICE MANUAL IS EFFECTIVE  
FROM: ..... S/N 55013, JUNE 2002  
TO: ..... CURRENT  
REF: ..... SM105EIBD2-AA

# 105E SERVICE MANUAL

## DOUBLE STAGE GEAR DRIVE WITH INTEGRAL BRAKE

This manual will assist in disassembly and assembly of the above model planetary gear drives. Item numbers, indicated in parentheses throughout this manual, refer to exploded view drawings. Individual customer specifications (mounting case, output shaft, brake assembly, etc.) may vary from exploded drawing and standard part numbers shown. If applicable, refer to individual customer drawing for details.

For any spare or replacement parts, contact your distributor or equipment manufacturer. Always try to have available the gear drive unit part number, serial number and date code on the serial tag. This information may be necessary for verification of any component part numbers. Component part numbers and/or manufacturing lot numbers may be stamped on individual parts. This information may also be helpful in identifying replacement components.

### LUBRICATION & MAINTENANCE

**Change the oil after the first 50 hours of operation.** Oil should be changed at 500 hour intervals thereafter. Use a GL-5 grade EP 80/90 gear oil (EP = "Extreme Pressure"). The gear drive should be partially disassembled to inspect gears and bearings at 1000 hour intervals.

If your unit was specified "output shaft up" or with a "-Z" after the part number, a grease zerk was provided in the base housing. For output shaft-up operation, the output bearing will not run in oil and must be grease lubricated. Use a lithium base or general purpose bearing grease per below schedule. Over-greasing the output bearing in a shaft up application tends to fill the housing with grease and thicken the oil.

<u>OPERATING POSITION</u>	<u>OIL CAPACITY</u>	<u>OIL LEVEL</u>
Horizontal Shaft	2.25 pints (1.1 liters)	To horizontal centerline of gear drive
Vertical Shaft	2.50 pints (1.2 liters)	To midway on upper/primary gearset



**WARNING:** When working on this equipment **always** use safe lifting procedures, **always** wear adequate clothing, and **always** wear adequate hearing, eye and respiratory protection.

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# Unit Disassembly Procedure

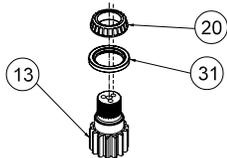
Refer to exploded view drawing on page 7.

- 1) Scribe a diagonal line across the outside of the unit from integral brake (6) to case (1) before disassembly to assure proper positioning of pieces during reassembly.
  - 2) Remove magnetic pipe plug (32) and drain oil from unit. Maximum drainage occurs when oil is warm.
  - 3) Remove eight cover bolts (24) and lockwashers (27).
  - 4) Lift off integral brake (6). The input shaft (12) and carrier thrust washer (4) may be lifted out of carrier assembly.
  - 5) Lift primary planet carrier assembly (3,8,10,15,18, & 29) out of case.
  - 6) The output shaft (13) and secondary planet carrier assembly may now be removed as follows:
    - a) The secondary planet carrier (2) spline is a press fit onto output shaft (13) spline. Case (1) should be set on a plate or table with output shaft protruding downward through hole in table.
    - b) Loosen but do not remove shaft retaining cap screws (25).
- NOTE: Care should be taken not to damage output shaft or injure your feet when shaft falls out of case.**
- c) Press output shaft out bottom of case by applying press load to top end of capscrews (25). Remove capscrews to allow shaft to pass through case.
  - d) Remove shim(s) (14) from top end of shaft (13).
- 7) Secondary planet carrier assembly (2, 5, 7, 9, 15,19, 22 & 28) may now be lifted out of case.

The unit is now disassembled into groups of parts. The area(s) requiring repair should be identified by thorough inspection of the parts after they have been cleaned and dried. Then refer to the appropriate group repair section listed below.

## Output Shaft Subassembly

(Items 13, 20 & 31)



- 1) Outer tapered bearing cone (20) may be removed using a gear puller. If reusing old bearing cone, do not damage roller cage by pulling on it.
- 2) To replace shaft seal (31) lubricate inner lip of new seal and turn so that open side is facing upward. Slide seal down output shaft (13) all the way to gear teeth or until it fits snug over seal diameter.

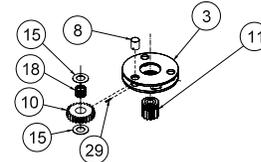
**NOTE: Press bearing onto shaft by pressing on inner race**

only. **DO NOT** press on roller cage or it may damage bearing.

- 3) With large end down, press outer bearing cone (20) onto output shaft (13). Be sure it is seated tightly against shoulder of shaft. If old outer bearing cone (20) was removed only to replace shaft seal, it may be reused.

## Primary Planet Carrier Subassembly

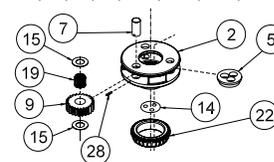
(Items 3, 8, 10, 11, 15, 18 & 29)



- 1) Rotate the planet gears (10) to check for abnormal noise or roughness in bearings (18) or planet shafts (8). If further inspection or replacement is required, proceed as follows.
- 2) Drive roll pins (29) into planet shafts (8).
- 3) Press or drive planet shafts out of carrier (3).
- 4) Slide planet gears (10) along with planet washers (15) out of primary carrier (3).
- 5) If planet bearings (18) must be replaced, they may now be removed from primary planet gears (10).
- 6) Use 1/8 inch pin punch to remove roll pins (27) from planet shafts.
- 7) Rebuild primary planet carrier assembly in reverse order using any needed new parts. Planet shafts (8) should be installed with chamfered end of 1/8 inch hole toward outside diameter of carrier. This will aid in alignment of holes while inserting roll pins.

## Secondary Planet Carrier Subassembly

(Items 2, 5, 7, 9, 14, 15, 19, 22 & 28)



- 1) Rotate the secondary planet gears (9) to check for abnormal noise or roughness in planet bearings (19) or secondary planet shafts (7). If further inspection or replacement is required, proceed as follows.
- 2) Drive roll pins (28) into secondary planet shafts (7).
- 3) Press or drive secondary planet shafts out of secondary carrier (2).
- 4) Slide secondary planet gears (9) along with planet washers (15) out of secondary carrier (2).

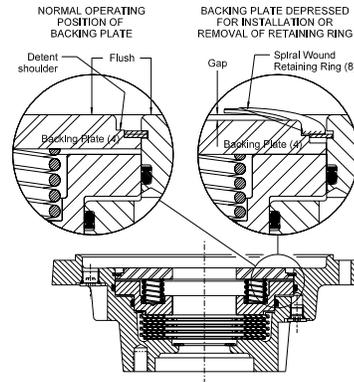
### Reassembly

- 1) Place carrier (2) with hub down. Place bearing retainer plate (5) in bottom of carrier. Insert secondary planet gears (9).

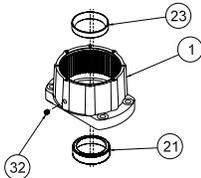
- 2) Turn carrier (2) over while using the planet gears (9) to hold retainer plate (5) in place.
- 3) Remove one planet gear (9) and insert a bearing (19). Install two washers (15) (one on either side of the planet gear). Place in carrier and install planet shaft (7) and roll pin (26). Repeat for two remaining gears.

**NOTE: Press bearing onto hub by pressing on inner race only. DO NOT press on roller cage or it may damage bearing.**

- 4) If tapered inner bearing cone (22) on hub of secondary carrier (2) must be replaced, it may be removed using a gear puller. Then, press a new bearing cone onto hub making sure bearing shoulder is tight against hub shoulder.



### Case Subassembly (Items 1, 21, 23 & 32)



- 1) Inspect inner and outer bearing cups (21 & 23) and replace if necessary.
- 2) Clean all foreign material from magnetic drain and fill plug (32).

## Brake Disassembly Procedure

Refer to exploded view drawing on page 8.

The 10" integral brake is spring loaded (normally applied) and requires hydraulic pressure to release. All brakes are individually tested at the factory for function, leaks and static breakaway torque and are tested to be within +/-20% of rated torque. Because the brake is integral with the gear drive it is designed to run "wet." Brake holding torque will be affected by the actual lubricant used but it is intended for operation with EP 80/90 gear oil. Orientation of the gearbox also affects the performance of the brake. With the gearbox mounted horizontally or vertically-pinion-up, the clutch plates will be bathed in oil and the holding torque will be in the -20% range. With the gearbox mounted in the vertical, output-down orientation, the brake plates will not run in oil and the holding torque should be in the +20% range.

### Brake Specifications Table

Maximum Pressure	3000 psi intermittent	3000 psi continuous
Maximum Speed	3000 RPM intermittent, no-load	2000 RPM continuous load
Maximum Operating Temperature	200°F Intermittent	170°F continuous
Oil volume required to release brake	.62 cubic inches	
Seal Fluid Compatibility	Mineral-based hydraulic oil	

- 1) Remove retaining ring (8) as follows:
  - a) With brake assembly oriented large end up as shown in exploded view on page 8, apply downward force on backing plate (4) to compress springs (5). Each spring exerts about 300 pounds of force.
  - b) Press the plate as far as it will go (about 1/16 inch of travel). This can be done with a hydraulic press or a piece of (at least 1/2-13) all thread, washers and hex nuts through the middle of the brake.
  - c) With backing plate (4) pressed away from the retaining ring (8), start the retaining ring out of the groove by prying the end of it with a screw driver.
  - d) Grab the end of the retaining ring with your hands and with a circular motion, work the retaining ring the rest of the way out of the groove.

**NOTE: The retaining ring (8) is normally under very high spring load. DO NOT attempt to remove it without first releasing spring load by depressing the backing plate (4) as described above. Personal injury and/or damage to the brake will result if this step is not followed.**

- 2) Remove springs (5)
- 3) Remove piston (3) as follows: Apply low air pressure (20-30 psi) to the brake release port while holding one hand on top of the piston (3). It is a good idea to first place a shop rag over the piston. The air will force the piston (3) out of the case (1).
- 4) Remove the friction discs (6), separator plates (7), O-rings (12, 13) and back-up rings (10, 11) and thrust washer (9) from case (1).

### Brake Inspection

- 1) Clean all parts prior to inspection.
- 2) Case (1): grooves for O-rings and retaining ring should be clean and free of nicks and dings.
- 3) Shaft (2): Should be free of heavy wear. Gear teeth should show no signs of pitting or surface spalling. Spline on inside and outside of shaft should not show any fretting wear beyond surface discoloration.
- 4) Piston (3): Should be free of all scratches, nicks and

dings on the two diameters that seal against O-rings in the case. Only very minor scratches may be dressed with 600 grit and finer paper to at least a 32 micro-inch finish.

- 5) Backing plate (4): Shoulder that bears against retaining ring (8) should be square and free of nicks and dings.
- 6) Springs (5): May be reused if no signs of cracks or rust. Springs do eventually fatigue and fail after many cycles so it is always recommended that they be replaced during non-routine servicing.
- 7) Friction & separator plates (6 & 7): May be reused if not excessively worn. There should be 8 parts total in the friction pack, 1 to 4 friction discs and 4 to 7 separator plates. The full stack measures .800 inches new. Replace friction discs if the full stack measures less than .775 inches height. This height represents a 10% reduction in holding torque versus "new."
- 8) Retaining ring (7): Should lay relatively flat and round in the free state. Replace if height measures more than .25" when checked on a flat surface or if the 2 spiral coils do not lay one on top of the other.
- 9) Back-up & O-rings (10, 11, 12 & 13): It is recommended that they be replaced during non-routine servicing. They may be reused if replacements are not available only if they are free of cuts and wear. Be sure to check all surfaces.

### Brake Reassembly

- 1) Install thrust washer (9) in case (1).
- 2) Friction discs (6) may be installed dry or they may be pre-wetted with gear oil. A friction disc (6) should be placed in the case (1) followed by a separator plate (7). Alternate with friction discs (6) and separator plates (7) in exactly the same order as they were removed. There must always be a separator plate (7) on the exposed (piston) end of the stack and a friction disc (6) on bottom end of stack.

**NOTE: If a friction disc (6) is placed next to the piston (3) the unit will overheat and fail.**

- 3) With the friction pack in place, align the splines of the friction discs (6) using the shaft (item 12 from gearbox exploded drawing). The shaft must be able to slip all the way through the friction pack to the thrust washer (9).
- 4) Install O-rings (12 & 13) such that they are nearest each other with the back-up rings (10 & 11) to the outside.
- 5) Lubricate the O-rings (12 & 13) and piston (3) with gear or hydraulic oil. Gently slide piston (3) into case (1) using heel of both hands as far as it will go. Recheck spline alignment of friction discs with the shaft (item 12 from gearbox exploded drawing). Using a mallet or light force, press the piston into the case (1) till it drops below the retaining ring groove.
- 6) Install springs (5) into the piston (3). They must be

evenly spaced such that spring force is always balanced side-to-side.

- 7) Set backing plate (4) with stepped side up, on top of springs (5) in case (1). Set the retaining ring (8) on stepped lip on backing plate (4). Using hydraulic press or suitable apparatus (mentioned above), press and hold the backing plate (4) as far as it will go below retaining ring groove. Refer to detail view in Disassembly instructions (page 4).
- 8) Using your hands, install the retaining ring (8) in its groove in the case (1). Start one end into the groove and work the rest of it into the groove with a circular motion. A flat-blade screwdriver or awl may help in the installation but no other tools should be needed. If the retaining ring doesn't go in freely then the backing plate is not pressed far enough into the case (1).
- 9) When installed, release the load against the backing plate (4). Check that the ring is properly seated in the groove and below the detent shoulder in the backing plate (4). Refer to detail view in disassembly instructions (page 4).
- 10) Reinstall shaft (12, gear drive drawing or 2, brake drawing) and verify that it will insert through the brake to the thrust washer (9). If not, apply pressure to the release ports to disengage the brake. Shaft must insert all the way through to the thrust washer (9) in order for the brake unit to install properly on the gear drive.

## Unit & Brake Reassembly

Refer to exploded view drawings on pages 7 - 8.

- 1) Turn case pinion side up. Apply a layer of lithium grease to outer bearing cup (21). Place the shaft (13) into case (1) so that the shaft's outer tapered bearing cone (20) is seated in case's outer bearing cup (21). Tap shaft seal (31) into place.

**CAUTION: Shaft is not retained at this time.**

- 2) Turn case pinion side down.
- 3) Apply a layer of lithium grease to inner bearing cup (23).
- 4) Carefully place shim(s) (14) over shaft, making sure the 3 holes in shim are properly aligned with those on the shaft (13). Use the same number of shims that came out of unit to allow for correct shaft bearing preload.
- 5) Rotate bearing retainer plate (5) inside secondary carrier assembly so that counter-bored holes are centered between planet gears (9).

**NOTE: It is important that the holes in the retainer plate remain centered between planet gears. A certain amount of tool clearance will be necessary in order to install and torque the capscrews (25).**

- 6) Install secondary carrier assembly (2) into case (1) as follows: Rotate secondary carrier assembly back and forth until planet gear teeth (9) mesh with gear teeth

in case (1). Let carrier assembly down until carrier spline touches output shaft (13) spline. Rotate carrier by hand until you are certain carrier spline has started cleanly and squarely onto shaft spline. View down through top of secondary carrier assembly through counter-bored holes in retainer plate (5). If needed, align holes in retainer plate directly over holes in the shaft and shim(s) (14).

- 7) Counter-bored holes should be centered between planet gears (9). Slowly press secondary carrier assembly down tightly against output shaft (13).

**NOTE 1: Torque at proper bearing preload will vary according to the application. At output speeds of greater than 25 RPM, preload torque (including seal drag) should be in the range of 120 to 150 in-lbs. At less than 25 RPM, torque should be 150 to 180 in-lbs.**

**NOTE 2: Bearing preload is achieved by adjusting the number of shims (14) under the bearing retainer plate (5).**

**NOTE 3: Bearing preload will be determined by measuring bearing rolling resistance which is the torque required to turn shaft (or to turn base with shaft stationary). Torque can be measured with a spring scale attached to the base. For example, with shaft stationary, if a scale is attached to the base, measuring 5 inches from the center of the gearbox and it takes 10 pounds of force to rotate base, then preload torque is 5 inch x 10 lb = 50 in-lbs.**

- 8) While secondary carrier (2) assembly is under press load (approx. 2 tons), measure preload torque between case (1) and shaft (13). If torque is not correct, add or remove 1 shim as required and try again.
- 9) Remove press load from secondary carrier (2). Install capscrews (25) and torque to 90 ft-lbs.
- 10) Place secondary thrust washer (4) onto center of secondary planet carrier assembly.
- 11) Install sun gear (11) into center of secondary planet carrier.
- 12) To install primary planet carrier assembly hold inside diameter of carrier (3) and rotate until planet gears line up with case gear teeth and sun gear. Assembly will drop into place.

**NOTE: A simple gear drive such as this does not require a gear timing procedure.**

- 13) Insert input gear (12) into unit so that teeth mesh with primary planet gears (10).
- 14) Place input thrust washer (17) over input gear.
- 15) Place a new o-ring (30) on bottom of integral brake (6).
- 16) Set brake/cover (6) on top of unit and refer to scribed line for proper orientation. Install and torque eight cover bolts (24) with lockwashers (27) to 32 ft-lbs.
- 17) Check to be sure magnetic plug (32) is securely installed into side of case (1).
- 18) Add gear oil as specified on page 2. Correct oil level will measure to middle of primary planet gears (10)

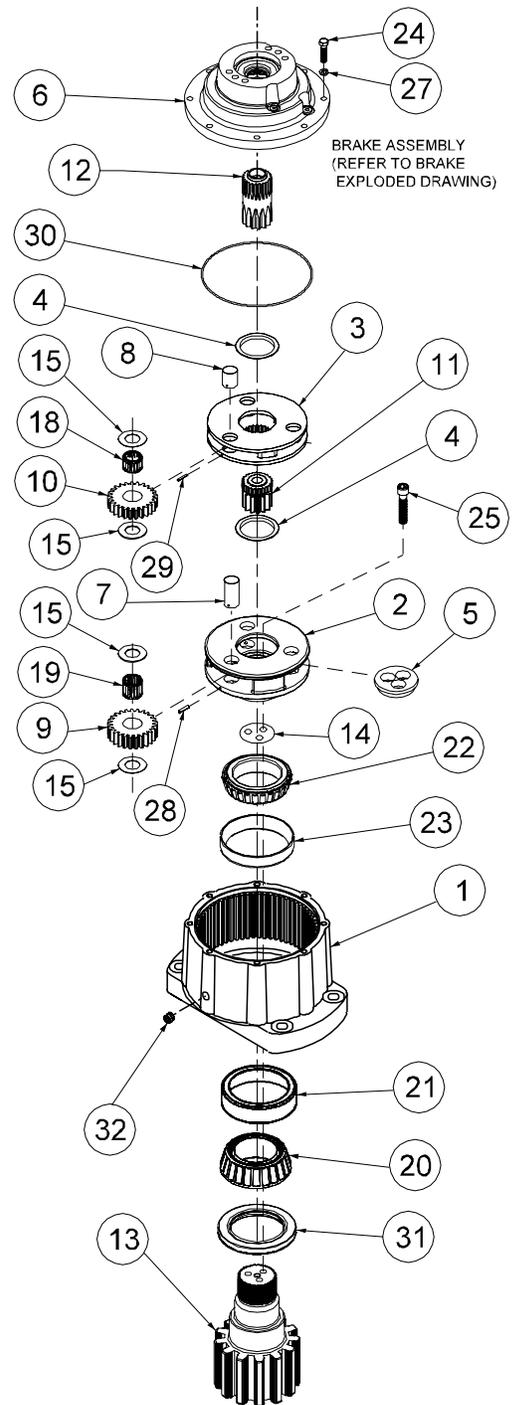
when in the vertical operating position.

- 19) Insert a shaft, such as an output shaft from a hydraulic motor, into input gear (12) and rotate by hand to be sure unit turns smoothly and easily.

**THE GEAR DRIVE IS NOW READY FOR USE.**

# 105E with Integral Brake Exploded View Drawing

ITEM		QTY	DESCRIPTION	PART NO.	PART NO.
			<b>DOUBLE PLANETARY</b>		
			RATIO 26.52:1	RATIO 36.00:1	
			6.00 4.42	6.00 6.00	
			(SEE BRAKE EXPLODED DRAWING)		
1	1	CASE-E100 (STD)	86-004-3602	86-004-3602	
2	1	CARRIER (SEC)	83-004-1262	83-004-1232	
3	1	CARRIER (PRI)	13-004-1032	13-004-1032	
4	2	THRUST WASHER-SECONDARY	81-004-2711	81-004-2711	
5	1	PLATE- BEARING RETAINER	86-004-1002	86-004-1002	
6	1	INTEGRAL BRAKE	(SEE BRAKE EXPLODED DRAWING)		
7	3	PLANET SHAFT (SEC)	83-004-1031	83-004-1031	
8	3	PLANET SHAFT (PRI)	13-004-1021	13-004-1021	
9	3	PLANET GEAR (SEC)	83-004-1272	83-004-1242	
10	3	PLANET GEAR (PRI)	13-004-1112	13-004-1112	
11	1	SUN GEAR	83-004-1282	83-004-1252	
12	1	INPUT SHAFT-SAE 1"-6B	13-004-9022	13-004-9022	
13	1	SHAFT- PER CUSTOMER SPEC	-	-	
14	*	SHIMS	83-004-1101	83-004-1101	
15	12	THRUST WASHER- PLANET	81-004-1561	81-004-1561	
18	3	BEARING - PRI. PL.	01-105-0590	01-105-0590	
19	3	BEARING - SEC. PL.	01-105-0500	01-105-0500	
20	1	BEARING CONE	01-102-0200	01-102-0200	
21	1	BEARING CUP	01-103-0200	01-103-0200	
22		BEARING CONE	01-102-0100	01-102-0100	
23	1	BEARING CUP	01-103-0090	01-103-0090	
24	8	H.H.C.S. 3/8-16-1 1/2 GR8	01-150-1670	01-150-1670	
25	3	S.H.C.S. 1/2-20 2 1/2 GR8	01-150-1480	01-150-1480	
27	8	LOCKWASHER 3/8 MED	01-166-0010	01-166-0010	
28	3	ROLL PIN - SEC. PL. 3/16 X 7/8	01-153-0210	01-153-0210	
29	3	ROLL PIN - PRI. PL. 1/8 X 7/8	01-153-0180	01-153-0180	
30	1	O-RING	01-402-0420	01-402-0420	
31	1	SHAFT SEAL	01-405-0660	01-405-0660	
32	1	PIPE PLUG 3/8 NPT MAGNETIC	01-207-0070	01-207-0070	



\* QUANTITY OF SHIMS DETERMINED BY PRELOAD DESIRED AND PART STACK-UP  
SEAL KIT P/N 86-016-0621 (INCLUDES 1 EACH OF ITEMS 30 & 31).

# Integral Brake Exploded View Drawing



THIS DRAWING IS EFFECTIVE  
 FROM: S/N 73000, OCT. 2002  
 TO: CURRENT  
 REF: X10IB-AA

ITEM	QTY	PART NO.	DESCRIPTION
1	1	13-004-9012	CASE - SAE 'A' 2 & 4-BOLT
2	1	(VARIES)	SHAFT (SEE GEARBOX EXPLODED DRAWING)
3	1	13-004-9032	PISTON
4	1	13-004-9042	BACKING PLATE
5	*	01-261-0501	SPRING (3/4 X 1 BLUE)
6	**	01-288-0072	FRICTION DISC (ROTOR)
7	**	01-288-0082	SEPARATOR PLATE (STATOR)
8	1	01-160-0670	RETAINING RING
9	1	01-112-0230	THRUST WASHER
10	1	01-400-0220	BACKUP RING
11	1	01-400-0260	BACKUP RING
12	1	01-402-0690	O-RING
13	1	01-402-0830	O-RING
14	2	01-208-0020	PLUG (SAE #4)
15	1	01-208-0070	PLUG (SAE #6)

**NOTES:**

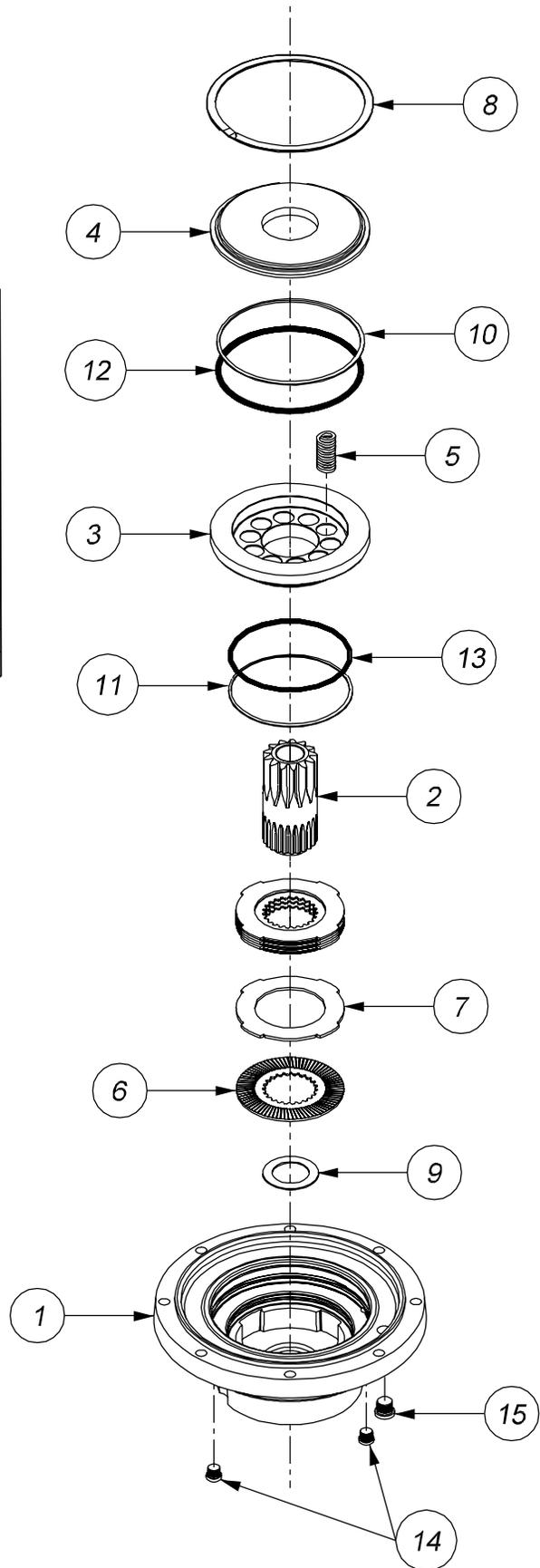
\*1. QTY OF SPRINGS MUST BE 2,4,5,6,8 OR 10 AS DETERMINED BY SPECIFIC BRAKE REQUIREMENTS.

\*\*2. TOTAL QTY OF FRICTION DISCS (ITEM 6) AND SEPARATORS (ITEM 7) MUST EQUAL 8. FULL COMPLEMENT BRAKE INCLUDES 4 FRICTION DISCS (ITEM 6) AND 4 SEPARATORS (ITEM 7).

**OPTIONS:**

1. SEAL KIT, P/N 95-016-2541 (INCLUDES 1 EACH, ITEMS 10,11,12,13)
2. FRICTION DISC KIT 95-016-2551 (INCLUDES 4 EACH ITEM 6)
3. SEPARATOR PLATE KIT 95-016-2561 (INCLUDES 4 EACH ITEM 7)

>>> NOTE THAT BRAKE IS SHOWN INVERTED (UPSIDE-DOWN) RELATIVE TO EXPLODED DRAWING OF PLANETARY GEARDRIVE.



# Eskridge Product Warranty

ESKRIDGE, INC. ("Eskridge") warrants to its original purchaser ("Customer") that new component parts/units ("Units") sold by Eskridge will be free of defects in material and workmanship and will conform to standard specifications set forth in Eskridge sales literature current at the time of sale or to any custom specifications acknowledged by written Customer approval of drawings, SUBJECT TO THE FOLLOWING QUALIFICATIONS AND LIMITATIONS:

1. Prior to placing Units in service, the Customer shall provide proper storage such that foreign objects (e.g., rain or debris) cannot enter any Units via entry ports which are normally closed during operation.
2. The Customer must notify Eskridge in writing of any claim for breach of this warranty promptly after discovery of a defect. The warranty period shall commence when a unit is placed in service and shall expire upon the earlier of
  - a. the expiration of twelve (12) months from the date of Commencement of Service (as defined in Paragraph 4)
  - b. the completion of one thousand (1000) hours of service of the Units
  - c. the expiration of six (6) months after the expiration of any express warranty relating to the first item of machinery or equipment in which the Units are installed or on which it is mounted, or
  - d. the installation or mounting of the Units in or on an item of machinery or equipment other than the first such item in which the Units are installed or on which the Units are mounted.
3. Units shall be deemed to have been placed in service (the "Commencement of Service") at the time the machinery or equipment manufactured or assembled by the Customer and in which the Units are installed or on which the Units are mounted is delivered to the Customer's dealer or the original end-user, whichever ever receives such machinery or equipment first.
4. This warranty shall not apply with respect to Units which, upon inspection by Eskridge, show signs of disassembly, rework, modifications, lack of lubrication or improper installation, mounting, use or maintenance.
5. Eskridge makes no warranty in respect to hydraulic motors mounted on any Units. Failure of any such motor will be referred to the motor manufacturer.
6. Claims under this warranty will be satisfied only by repair of any defect(s) or, if repair is determined by Eskridge in its sole, absolute and uncontrolled discretion to be impossible or impractical, by replacement of the Units or any defective component thereof. No cash payment or credit will be made for defective materials, workmanship, labor or travel. IN NO EVENT SHALL ESKRIDGE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND OR NATURE, FOR WHICH DAMAGES ARE HEREBY EXPRESSLY DISCLAIMED.
7. From time to time, Eskridge may make design changes in the component Units manufactured by it without incorporating such changes in the component Units previously shipped. Such design changes shall not constitute an admission by Eskridge of any defects or problems in the design of previously manufactured component Units.
8. All freight charges on Units returned for warranty service are the responsibility of the Customer.

## Warranty Return Policy

1. Any part/Unit(s) returned to Eskridge must be authorized by Eskridge with an assigned return (CSR) number.
2. All Units shall be returned freight prepaid.
3. Any Units qualifying for warranty will be repaired with new parts free of charge (except for freight charges to Eskridge as provided above).
4. If Units are found to be operable, you have two options:
  - a. The Units can be returned to you with a service charge for inspection, cleaning, and routine replacement of all rubber components and any other Units that show wear;
  - b. We can dispose of the Unit(s) at the factory if you do not wish it to be returned.

**NOTE:** Any order of Units by customer shall only be accepted by Eskridge subject to the terms stated herein. Any purchase order forms used by Customer (to accept this offer to sell) which contain terms contrary to, different from, or in addition to the terms herein shall be without effect, and such terms shall constitute material alteration of the offer contained herein under K.S.A 84-2-207 (2)(b), and shall not become part of the contract regarding the sale of the Units.

The foregoing warranty is the sole warranty made by Eskridge with respect to any Units and is in lieu of any and all other warranties, expressed or implied. There are no warranties which extend beyond the description on the face hereof without limiting the generality of the foregoing, Eskridge expressly disclaims any implied warranty of merchantability or fitness for any particular purpose, regardless of any knowledge Eskridge may have of any particular use or application intended by the purchaser. The suitability or fitness of the Units for the customer's intended use, application or purpose and the proper method of installation or mounting must be determined by the customer.

## OTHER ESKRIDGE PRODUCTS

### Planetary Gear Drives

<u>SERIES</u>	<u>TORQUE RATING</u>
20/28 SERIES	MAX. INTERMITTENT 20,000 - 28,000 IN-LB
50 SERIES	50,000 IN-LB
65 SERIES	60,000 IN-LB
100 SERIES	100,000 IN-LB
130 SERIES	130,000 IN-LB
150 SERIES	150,000 IN-LB
250 SERIES	250,000 IN-LB
600 SERIES	600,000 IN-LB
1000 SERIES	1,000,000 IN-LB

### Multiple Disc Brakes

<u>SERIES</u>	<u>TORQUE RATING</u>
90B SAE B	TO 4,800 IN-LB
90BA SAE B ADJUSTABLE TORQUE	TO 4,800 IN-LB
92B SAE B LOW PROFILE	TO 2,800 IN-LB
93 FOR NICHOLS MOTORS	TO 6,100 IN-LB
95C SAE C	TO 12,000 IN-LB
95W SAE C WHEEL MOUNT	TO 21,000 IN-LB
98D SAE D	TO 25,000 IN-LB

### Diggers (Planetary Auger Drives)

<u>SERIES</u>	<u>TORQUE RATING</u>
D50 MODELS 1500, 2500 & 5000	1,500 - 5,000 FT-LB
76 MODELS BA & BC, TWO SPEED	8,000 - 12,500 FT-LB
77 MODELS BA, BC & BD	6,000 - 12,500 FT-LB
78 MODELS 35 & 48, TWO SPEED	9,000 - 12,500 FT-LB
75 MODELS 38 & 51, TWO SPEED	16,500 - 20,000 FT-LB

