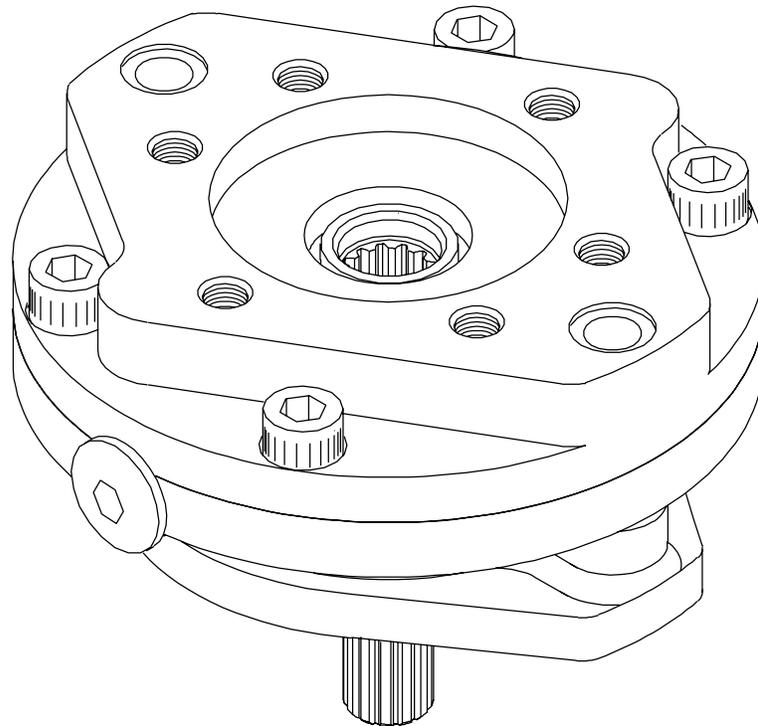


ESKRIDGE

92B SERIES BRAKE SERVICE AND REPAIR MANUAL



Example Part Number

92	B	2	A	3	G043	B
Model	Output Pilot	Output Shaft	Input Pilot	Input Shaft	Torque	Options

THIS SERVICE MANUAL IS EFFECTIVE
FROM:.....S/N 28283, JANUARY 1992
TO:CURRENT
REF:SM92B_01_2026

MODEL 92B SERVICE MANUAL

MULTI DISC BRAKE

This manual will assist in disassembling and assembling major components of all Model 92B Brakes. Item numbers, indicated in parentheses throughout this manual, refer to the Eskridge Model 92B exploded parts breakdown drawings. Individual customer specifications (mounting cases, output shafts, brake assemblies, etc.) may vary from the exploded drawing and standard part numbers shown. If applicable, refer to individual customer drawing for details.

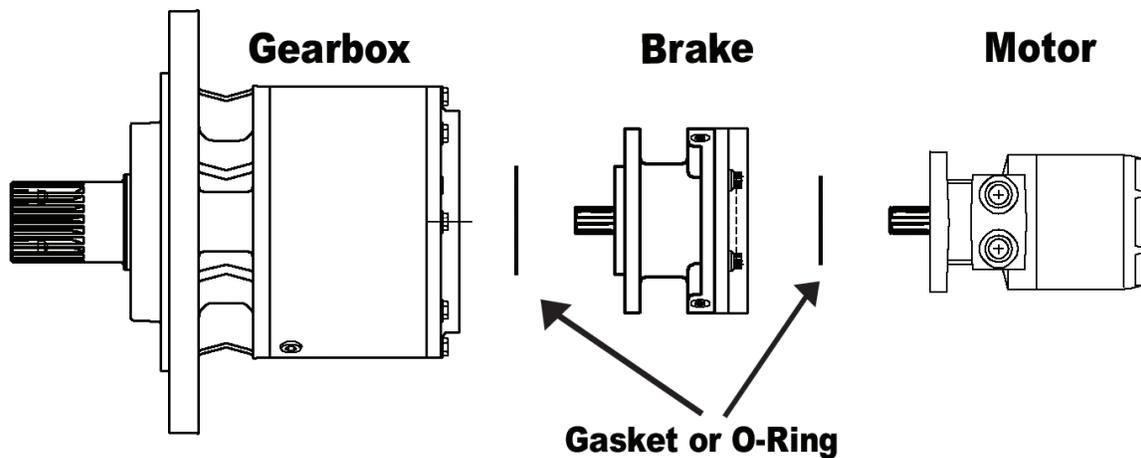
The Eskridge Model 92B series brake is manufactured for two specific types of holding torque requirements: the standard "fail-safe" requirement and the "slip protection" requirement. Both types are spring loaded (normally applied) with a hydraulic pressure required for release. All brakes are individually tested at the factory for function, leaks and static breakaway torque. Fail-safe type brakes are tested to be assured they are in excess of 110% of the fail-safe torque rating for the unit. A fail-safe brake should be used when the only requirement is a minimum static holding torque. A slip protection brake should be used where an accurate specified torque is required, such as a side load protection on a crane or overload protection in a drivetrain. These brakes are tested to be within +/- 10% of the slip protection rating for the unit.

SPECIFICATIONS

Maximum Pressure	4,000 PSI	
Maximum Continuous Pressure	4,000 PSI	
Maximum Speed	3,900 RPM	
Shaft Splines	30° involute, flat roof side fit per ANSI B92.1-1970 internal - class 7, external - class 5	Breakaway torque may vary +/- 10% from specified ratings. Use of fluids other than ATF-F must be compatible with internal seals. Wet brake torque based on ATF-F fluid friction plate cavity. Use only mineral based hydraulic oil to release brake.
Maximum Operating Temperature	170°F	
Volume of Oil to Release Brake	0.3 cu. in.	
Approximate Weight	20 lbs	

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Installation

Note: Before beginning installation procedures, visually inspect brake mounting flanges and shaft splines for damage due to poor handling during shipping. If damage is excessive, do not use brake.

- 1) Mount 92B brakes with (2) 1/2-13x1 capscrews through brake mounting flange. Torque bolts to 75 ft-lbs. On horizontal shaft mounting, one o-ring port should be oriented as close to the top as practical (bleeder port). Some installations may require that the brake be “released” so it can be rotated to align bolt holes. (See Step 4 below.)
- 2) Attach motor to input end of brake with appropriate sized bolts through motor flange and gasket to give approximately 1/2” thread engagement. Torque 1/2” bolts to 75 ft-lbs or 3/8” bolts to 32 ft-lbs.
- 3) Remove plastic protective plug from brake pressure port and attach a pressure line with 7/16-20 UNF-2B straight thread o-ring fitting.
- 4) Apply low pressure (20–30 psi) to brake release port. Loosen hollow hex plug, opposite of pressure port, just enough to allow hydraulic fluid to bleed from cavity. After air has been bled from brake, tighten plug.

Disassembly

- 1) Remove motor from brake.
- 2) Loosen (4) 1/2-13x1 12-point capscrews (8). Alternately, unscrew capscrews 1/2 turn at a time until all internal spring force is relieved. Remove cover (2).

CAUTION: Do not clamp or otherwise retain cover (2) while removing cover bolts (8), since the brake is under high compressive spring load.

- 3) Apply low pressure (20–30 PSI) to brake release port while holding one hand on top of piston (3) and springs (10). The air will force piston out of case. If friction discs (11) will be reused, turn brake upside down so that hydraulic oil cannot run down into case (1) as piston is forced out.
- 4) Remove shaft (4).
- 5) Friction discs (11), separator plates (12) and spacers (5) may now be removed from case (1).

Assembly

NOTE: Parts must be clean and dry before assembly. Clean contamination from bronze friction disks using liquid Ether or liquid Freon. If these chemicals are not available replace the friction disks! Cleaning the sintered bronze material with any other media can affect the brakes torque rating! Visually inspect components for damage and abnormal wear. Do not use damaged or worn parts.

- 1) Install shaft (4) by pushing shaft downward through bearing (7) and seal (18) until bearing shoulder on shaft is seated against bearing.
- 2) Friction pack [spacer (5), friction disc (11) and separator plate (12)] must be installed in exactly the same order as it was removed. There must always be a friction disc (11) on top and bottom ends of stack plates. If a separator plate (12) is placed next to the piston (3) or spacer (5), the unit will overheat and seize. Be careful not to contaminate the friction surfaces with dirt, grease or fluid media* other than what was specified for your particular brake.

NOTE: If installing new friction discs (11), soak all discs in specified fluid media for approximately 10 minutes before installation.

- 3) Pour fluid medium over the friction plates or until the fluid level is even with top friction disc (11).
- 4) If replacing piston o-rings, be sure o-rings (15 & 16) are nearest each other with back up rings (13 & 14) to the outside after installing onto piston (3). If back-up rings have concave face, that face must be towards o-ring. Gently slide piston (3) into case (1) until large o-ring (16) touches case. Press down firmly on piston using heel of both hands; this will squeeze o-rings into case and set piston (3) against friction plates.
- 5) Insert springs (10) into piston (3).
- 6) Install cover o-ring (17) around lip on case (1).
- 7) Install thrust washer (7) onto shaft (4).
- 8) Set cover (2) on top of springs and over input end of shaft (4). Start four cover bolts (8) through cover and into case with your fingers. Alternately tighten cover bolts 1/2 turn at a time until cover is tight against sace. Torque bolts to 80 ft-lbs.

Repair Kits

Due to the many combinations of torque and release pressures available for the Series 92B Brake, it is impossible to detail each style and supply a repair kit for each model. The information listed in this manual is representative of all Series 92B brakes. The repair kits listed below will work with all combinations of torque and release pressures, input mountings and friction plates.

It is entirely possible to have "extra" parts left over from the repair kits after maintenance is complete. If you are not sure about what is required for your brake and its configuration, please contact Eskridge's salesdepartment.

Friction Disc Kit, 92B	92-016-1981
Friction Plates, 4	01-228-0010
Separator Plate Kit, 92B	92-016-1991
Separator Plates, 3	01-228-0020
Seal Kit, 92B	92-016-2011
O-Ring, Piston, 1	01-402-0630
O-Ring, Piston, 1	01-402-0640
O-Ring, Case Seal, 1	01-402-0650
Shaft, Seal, 1	01-405-0570
O-Ring, Mtr., SAE "B", 1	01-402-0220
Gasket, Mtr., SAE "A" 4 Bolt, 1	90-004-1061
Gasket, Mtr., SAE "A" 4 Bolt, 1	90-004-1081
Gasket, Mtr. SAE "B" 2 Bolt, 1	90-004-1091
Master Rebuild Kit, 92	92-015-2051
(Non-Bronze)	
Friction Disc Kit, Non-Bronze,1	92-016-1981
Seal Kit, 92B, 1	92-016-2011
Bearing, Output, 1	01-100-0240
Bearing, Input, 1	01-112-0310

* Unless otherwise specified, Eskridge Series 92B Brakes use automatic transmission fluid (ATF Type F) as a fluid medium. ATF Dexron will give somewhat different torque characteristics. Some brakes are specifically designed to use hydraulic oil, gear lube or other fluid media.

Series 92B Brake - Exploded View Drawing

Model 92B

1	1	92-004-1004	CASE
2	1	92-004- 'A'	COVER
3	1	92-004-1042	PISTON
4	1	92-004- 'B'	SHAFT
5	*	90-004-1031	SPACER
6	1	01-100-0240	BEARING
7	1	01-112-0310	THRUST RACE
8	4	01-150-1040	12 POINT CAP SCR.(1/2-13 X 1)
9	1	01-208-0020	HOL. HEX. PLUG
10	*	01-261- 'C'	SPRING
11	*	90-004-1742	FRICION DISC (BRONZE)
11	*	01-288-0010	FRICION DISC (PAPER)
12	*	01-288-0020	SEPARATOR PLATE
13	1	01-402-0640	O-RING
14	1	01-402-0630	O-RING
15	1	01-402-0650	O-RING
16	1	01-405-0570	SEAL
17	-	-	-
18	-	-	-
19	1	01-402-0220	O-RING -OUTPUT PILOT
20	1	90-004- 'E'	GASKET - MOTOR (NOT SHOWN)
21	1	01-402- 'F'	O-RING - MOTOR (NOT SHOWN)
Item	Qty	Part No.	Description

A	COVER	PART NO.
	SAE 'A' 2/MOD 4 BOLT	92-004-1103
	SAE 'B' 2 BOLT	92-004-1113

B	SHAFT IN/OUT	PART NO.
	13T/13T	92-004-1053
	6B/13T	92-004-1063
	6B/6B	92-004-1073

C	SPRING COLOR	PART NO.
	RED	01-261-0310
	GOLD	01-261-0300
	GREEN	01-261-0290

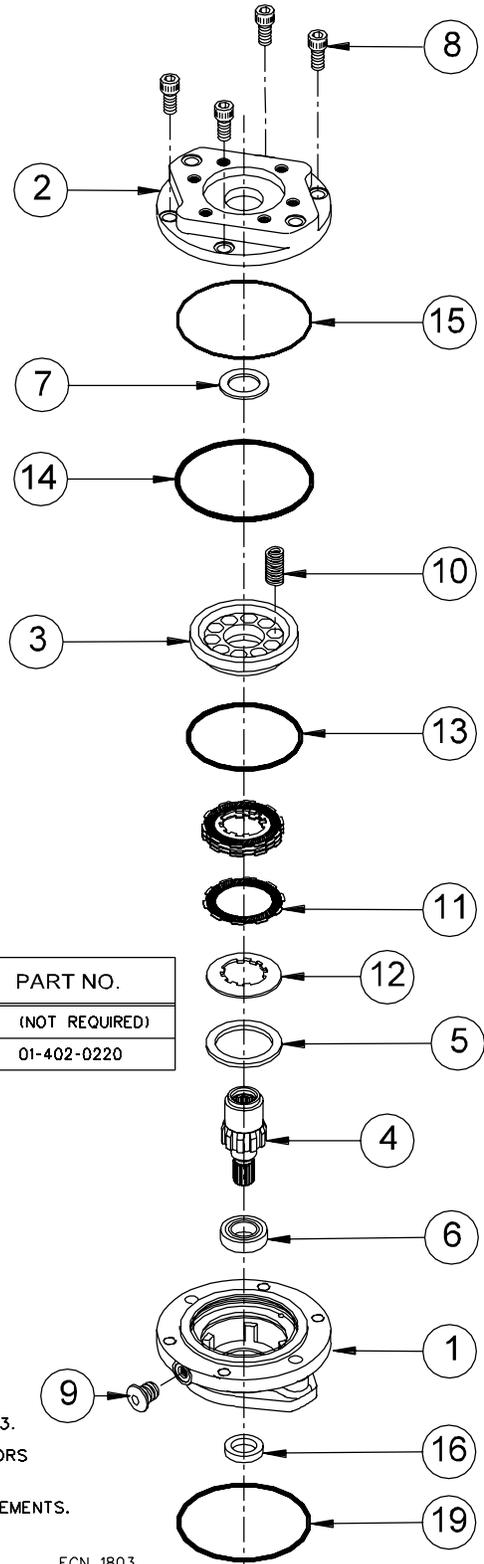
E	MOTOR GASKET	PART NO.
	SAE 'A' 2/MOD 4 BOLT	90-004-1061
	SAE 'B' 2 BOLT	90-004-1091

F	MOTOR O-RING	PART NO.
	SAE 'A'	(NOT REQUIRED)
	SAE 'B'	01-402-0220

OPTIONAL KITS	PART NO.	ITEMS INCLUDED
SEAL KIT	92-016-2011	13,14,15,16,19 AND 90-004-1061, -1091
FRICION DISC KIT PAPER	92-016-1981	11
FRICION DISC KIT BRONZE	92-016-2021	11
SEPARATOR PLATE KIT	92-016-1991	12
MASTER REBUILD KIT PAPER	92-015-2051	6,7,SEAL & FRICTION KITS
MASTER REBUILD KIT BRONZE	92-015-2061	6,7,SEAL & FRICTION KITS

1 TOTAL QTY OF SEPARATORS (ITEM 12) AND SPACERS (ITEM 5) MUST EQUAL 3. QTY OF FRICTION DISCS (ITEM 11)- QTY OF SEPARATORS (ITEM 12) PLUS 1. FULL COMPLETE BRAKE INCLUDES 4 FRICTION DISCS (ITEM 11), 3 SEPARATORS (ITEM 12), AND 0 SPACERS (ITEM 5).

2 QTY OF SPRINGS (2,3,4,5,6,8 OR 10) IS DETERMINED BY SPECIFIC BRAKE REQUIREMENTS.



ECN 1803
X92B-AB

DATE 06-26-00

**ESKRIDGE FINISHED PRODUCT
LIMITED WARRANTY**

1.1 Scope of Warranty Coverage. Upon the terms and subject to the conditions set forth in this limited warranty:

(a) ESKRIDGE (referred to herein as “**ESKRIDGE**” or the “**Manufacturer**”) warrants to each initial end user customer (a “**Purchaser**”) of a new finished product together with any accessories manufactured and sold directly from ESKRIDGE (the “**Product**”) that the Product shall be free from defects in material and workmanship, under normal working and service conditions, for a period of eighteen (18) months from the date the Product is shipped from ESKRIDGE. (the “**Warranty Term**”). A Purchaser shall be eligible for an additional eighteen (18) months of coverage in addition to the Warranty Term (also referred to as the “**Standard (+) PLUS benefit**”) only if the Purchaser (i) complies with Section 1.2(a) and (ii) registers the Product during the Warranty Term at myproduct.eskridgeinc.com.

(b) Notwithstanding the foregoing, this warranty does not cover components damaged by accident, abuse, misuse, neglect, untrained operators, collision, overloading, modification, disassembly, rework, misapplication, improper installation, lack of lubrication or maintenance, or improper service. This warranty does not cover the paint or material finish, removal or reinstallation of the Product, or normal wear and tear and loss of functionality due to aging of the Product (which may include but is not limited to bearings, bushings, seals, O-rings, gaskets, brake material, motor brushes, electrical cables and more).

1.2 Eligibility of Warranty Coverage.

(a) A Purchaser shall be eligible for warranty coverage under this Limited Warranty during the Warranty Term only if:

(i) Prior to placing a Product in service, and throughout use of the Product during the Warranty Term, the Purchaser provides (or causes to be provided) proper storage such that foreign objects (e.g. rain or debris) cannot enter any Product through entry ports which are normally closed during operation.; and

(ii) The Purchaser maintains, or causes to be maintained, the Product according to commercially reasonable standards and utilizes the Product for the purposes for which it was created; and

(iii) No repairs or alterations have been made by any party other than ESKRIDGE, including Purchaser, unless otherwise authorized in writing by ESKRIDGE.

1.3 Transferability of Warranty.

(a) This warranty is transferable only from the Purchaser to the first subsequent transferee (the “**Transferee**”) of the Product from Purchaser upon (i) written notification to ESKRIDGE and (ii) registration of the transfer, both within 30 days of such Product transfer.

(b) Upon satisfaction of transfer requirements set forth in Section 1.3(a), the Transferee shall succeed to all the rights and obligations of the Purchaser set forth in this Limited Warranty.

1.4 Certain Limitations on Scope of Warranty Service.

(a) Any obligation of ESKRIDGE under this warranty, statutory or otherwise, is limited to the repair of the Product, at its factory or Authorized Service Centers. Notwithstanding the foregoing, if field service or repair is performed by ESKRIDGE at the request of the Purchaser and no defect is found with material or workmanship of the Product, the Purchaser shall compensate ESKRIDGE for its time and expenses within thirty (30) days of delivery of an invoice relating to the same. If repair is determined by ESKRIDGE in its sole, absolute and uncontrolled discretion to be impossible or impractical, then ESKRIDGE may satisfy this warranty by replacing the Product. ESKRIDGE will not provide any cash payment or credits for defective materials or workmanship.

(b) Purchaser shall be responsible for any and all freight charges for any Product receiving warranty service under this limited warranty. Any travel time, transportation charges, freight charges, or similar costs incurred by ESKRIDGE in connection with the replacement or repair of defective parts, shall, be the responsibility of the Purchaser. If applicable, ESKRIDGE shall invoice Purchaser for the total amount of such charges within sixty (60) days of fulfilling its duties under this warranty, payable within thirty (30) days of delivery of such invoice. In no event shall ESKRIDGE be liable for bills for service, labor or other expenses that have been incurred by the Purchaser without approval or prior authorization by ESKRIDGE for inspection, maintenance, or repair of the Product.

(c) If a Product is found to be operable upon inspection, the Product, at Purchaser's election, may be either (1) returned to the Purchaser with a service charge from ESKRIDGE for inspection, cleaning, and routine replacement of all rubber components and any other parts that show wear; or (2) ESKRIDGE can dispose of the product safely.

1.5 Limitations of Liability. ESKRIDGE shall in no event be liable for punitive, special or consequential damages relating to the Product or this Warranty. ESKRIDGE makes no warranty in respect to third-party accessories, upgrades, or additions to the Product.

1.6 Improving Product. ESKRIDGE reserves the right to improve the Product through changes in design or materials as it may deem desirable or necessary without being obligated to incorporate, upgrade, or otherwise modify previously manufactured products.

1.7 Limitations of Warranty.

(a) THE WARRANTY SET FORTH ABOVE IS THE ONLY EXPRESS WARRANTY. ESKRIDGE HEREBY DISCLAIMS AND EXCLUDES ANY OTHER EXPRESS, IMPLIED, OR STATUTORY WARRANTIES, ARISING BY OPERATION OF LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE, OF TRADE, OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY.

(b) ANY IMPLIED WARRANTY WHICH BY LAW MAY NOT BE EXCLUDED IS LIMITED IN DURATION TO ONE (1) YEAR FROM THE DATE OF ORIGINAL RETAIL PURCHASE OF THE PRODUCT.

(c) This warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

(d) This warranty is valid only in the U.S.A. and Canada. For warranty outside the U.S.A. and Canada contact your nearest Eskridge Distributor.

1.8 No Modifications to Warranty. No ESKRIDGE dealer, distributor, agent or employee is authorized to make any modification, extension or addition to this warranty.

1.9 How to Apply for Warranty Coverage.

All claims are handled by contacting your nearest Eskridge Distributor. For questions, please contact customer support: eskcustomersupport@ramseyindustries.com.

Visit [Dealer Locator - Eskridge](#) for Eskridge Distributor locations and contact information.

Additional warranty, service support, product information, and parts information can be found on www.eskridgeinc.com.