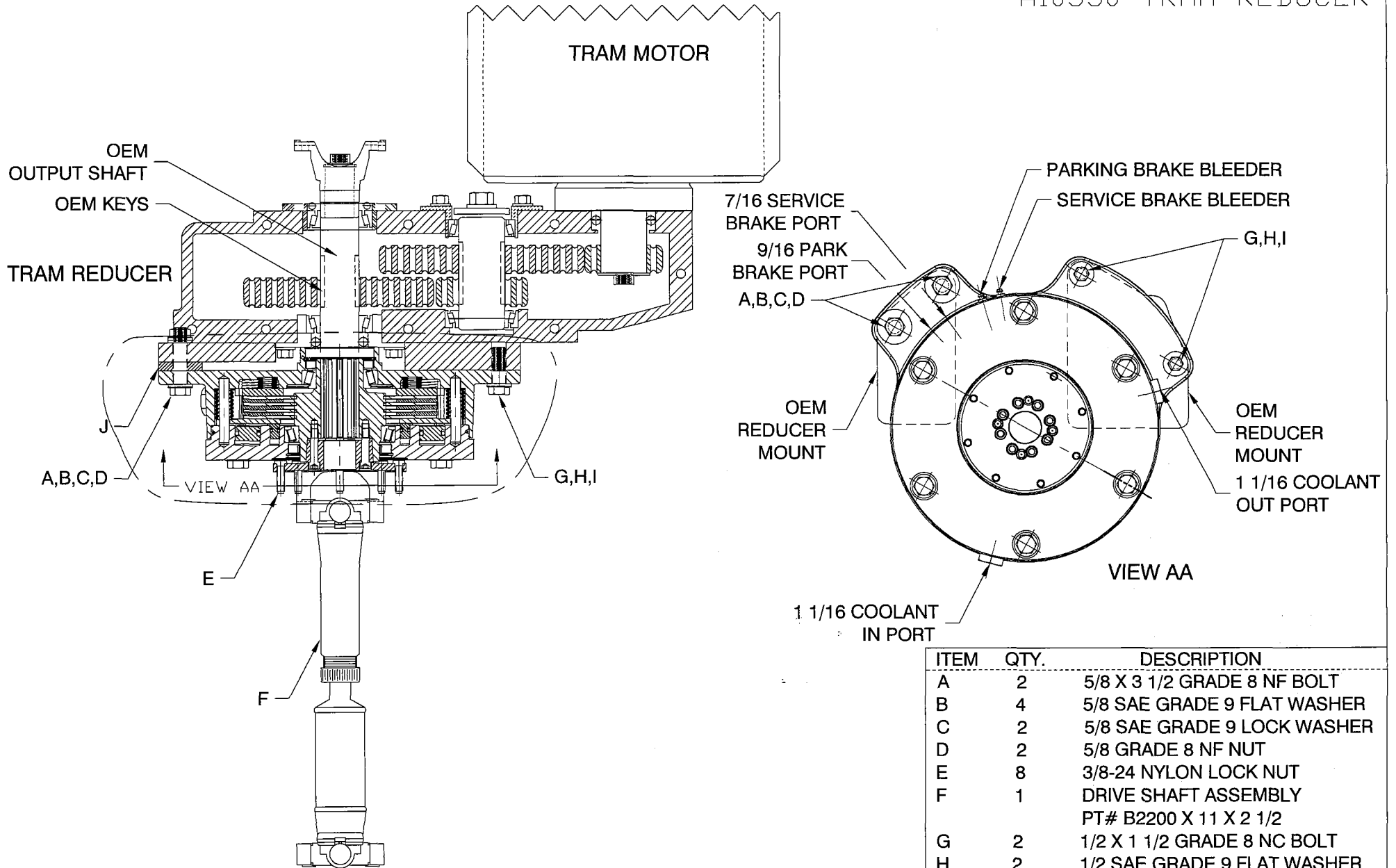


# A10550 TRAM REDUCER



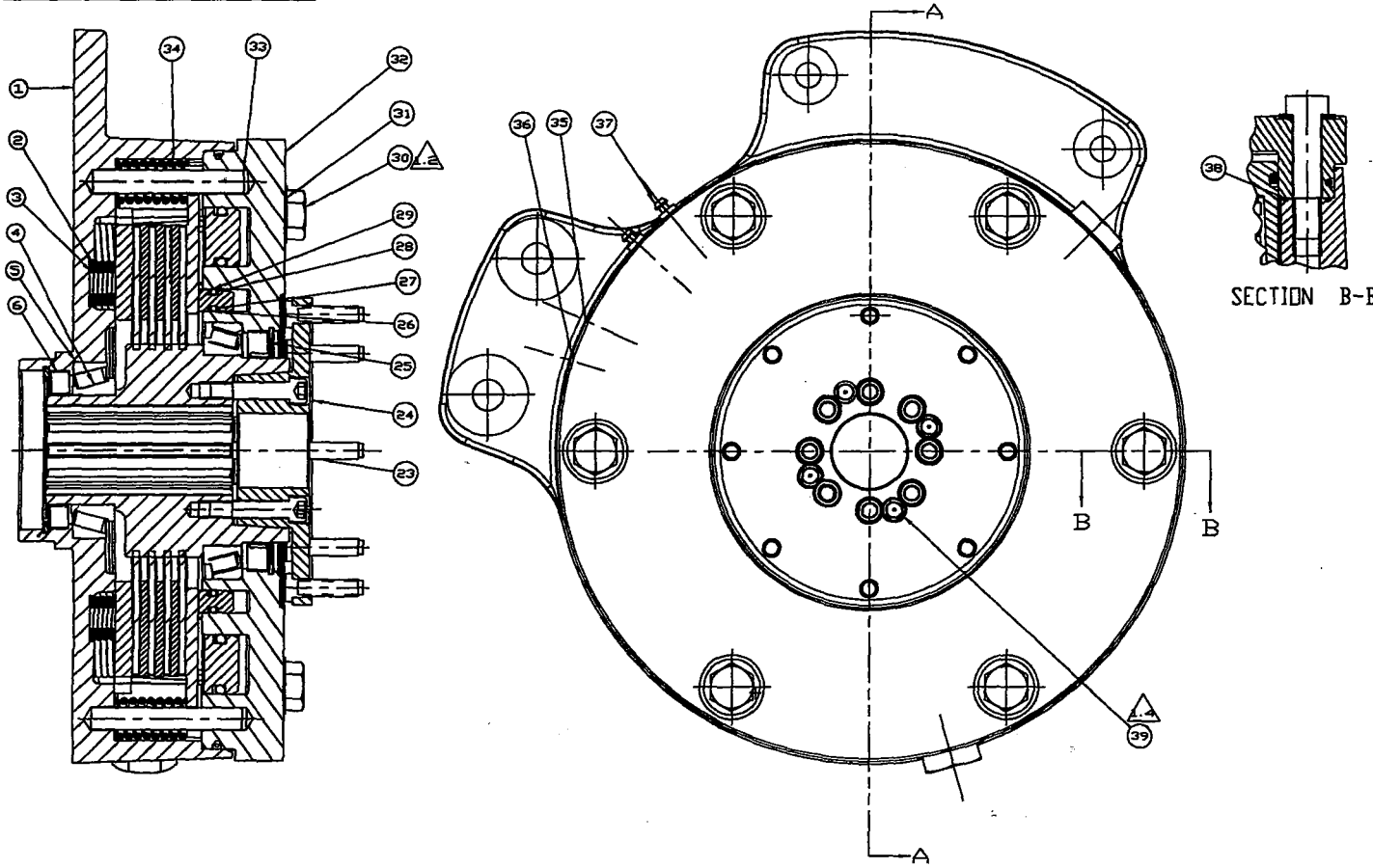
ITEM	QTY.	DESCRIPTION
A	2	5/8 X 3 1/2 GRADE 8 NF BOLT
B	4	5/8 SAE GRADE 9 FLAT WASHER
C	2	5/8 SAE GRADE 9 LOCK WASHER
D	2	5/8 GRADE 8 NF NUT
E	8	3/8-24 NYLON LOCK NUT
F	1	DRIVE SHAFT ASSEMBLY PT# B2200 X 11 X 2 1/2
G	2	1/2 X 1 1/2 GRADE 8 NC BOLT
H	2	1/2 SAE GRADE 9 FLAT WASHER
I	2	1/2 SAE GRADE 9 LOCK WASHER
J	2	FAB 1174 SPACER

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**Highland Machinery**  
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DESC:	A10550 WET BRAKE		
DATE:	7/30/02	SCALE:	NTS DR: JK
DWG#:	WBPARTS488	REVISIONS:	

**AVCO BRAKE NO. 83085 CUTAWAY VIEW**  
ECO 22368 REV B



**BRAKE NUMBER 83085 PARTS LIST**  
ECO 22368 REV B

ITEM	PART	DESCRIPTION	QTY
1	83088	HOUSING	1
2	36384	COMPRESSION SPRING	44
3	36385	COMPRESSION SPRING	44
4	83398	BEARING CONE	1
5	83397	BEARING CUP	1
6	83150	LIP SEAL	1
7	84113	RETAINING RING	1
8	83090	SPLINED SHAFT	1
9	83772	PRIMARY DISC	1
10	84345	ROTATING DISC	4
11	83771	STATIONARY DISC	3
12	37452	HEX PLUG	2
13	83773	SECONDARY DISC	1
14	84216	O-RING	1
15	83142	O-RING	1
16	83093	PISTON - FAILSAFE	1
17	83141	O-RING	1
18	83255	PISTON - SERVICE	1
19	83394	BEARING CUP	1
20	83395	BEARING CONE	1
21	83299	RETAINING RING	1
22	84110	SOCKET HD SCREW	8
23	84009	STUD	8
24	83401	FLANGE	1
25	83147	OIL SEAL	1
26	83657	BACKUP RING	1
27	38592	O-RING	1
28	38450	O-RING	1
29	83656	BACKUP RING	1
30	84112	HEX BOLT	6
31	83680	WASHER	6
32	83086	POWER PLATE	1
33	83137	TORQUE PIN	6
34	83260	COMPRESSION SPRING	4
35	28435	PROTECTIVE PLUG	1
36	36326	PROTECTIVE PLUG	1
37	29035	BLEEDER	2
38	83296	O-RING	6
39	28435	PROTECTIVE PLUG	4

ECO REFERENCE ONLY  
DO NOT USE  
FOR PRODUCTION

- 1.1.3 O-RINGS
- 1.1.4 ASSEMBLY BOLTS
- ▲ BOLT ASSEMBLY TORQUE: 159-175 FT LBS; BOLTS TO BE LUBRICATED.
- ▲ BOLT FLANGE TORQUE: 58-65 FT LBS; BOLTS TO BE LUBRICATED
- ▲ BEFORE INSERTING PLUG, FILL THREAD CAVITY WITH HIGH TEMPERATURE LITHIUM GREASE (B3)

TEST PROCEDURE:  
 21 HYDRAULIC FLUID USED DURING TEST TO CONFORM TO MTE-26  
 22 FAILSAFE PISTON PROOF PRESSURE CHECK AT 900 PSI FOR 15 SECONDS. NO LOSS IN PRESSURE ALLOWED.  
 23 SERVICE PISTON PROOF PRESSURE CHECK AT 1400 PSI FOR 15 SECONDS. NO LOSS IN PRESSURE ALLOWED.  
 24 FAILSAFE RELEASE PRESSURE SLOWLY INCREASE PRESSURE TO THE BRAKE FROM 0 PSI UNTIL THE SHAFT ROTATES FREELY. ACCEPTABLE RANGE: 290-320 PSI.  
 25 FAILSAFE CONTACT PRESSURE INCREASE PRESSURE TO 900 PSI HIGHER THAN THE RELEASE PRESSURE. THEN SLOWLY REDUCE PRESSURE UNTIL FREE ROTATION OF SHAFT IS INTERRUPTED.  
 26 SERVICE CONTACT PRESSURE INCREASE PRESSURE TO 445 PSI MINIMUM IN THE FAILSAFE BRAKE. SLOWLY INCREASE THE PRESSURE TO THE SERVICE BRAKE UNTIL FREE ROTATION OF SHAFT IS INTERRUPTED. ACCEPTABLE RANGE: 20-30 PSI RECORD PRESSURE.  
 27 SERVICE RELEASE PRESSURE WITH 445 PSI MINIMUM IN THE FAILSAFE BRAKE. SLOWLY INCREASE PRESSURE TO THE SERVICE BRAKE TO 30 PSI HIGHER THAN THE SERVICE CONTACT PRESSURE. THEN SLOWLY REDUCE PRESSURE UNTIL THE SHAFT ROTATES FREELY. ACCEPTABLE RANGE: 10-30 PSI.

MISCELLANEOUS:  
 31 COAT WITH CORROSION PREVENTATIVE PRIOR TO SHIPMENT.

(B1)	CS DRAWING	CS 83085					
(B2)	CC DRAWING	CC 83085					
53,000	1400	48,000	445	10T PARALLEL SIDE FIT	PROJECT DATE	PART NAME	
SERVICE RATED TORQUE (L.B. IN)	SERVICE PRESSURE (PSI)	FAILSAFE RATED TORQUE (L.B. IN)	FAILSAFE RELEASE PRESSURE (PSI)	INPUT (INTERNAL) SPLINE DATA	4552	08-28-03	MULTI-DISC WET BRAKE W/SERVICE
					DESIGNER	SCALE	PART NUMBER
					N. CRAWFORD	0.750	83085





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## INSTALLATION INSTRUCTIONS FOR THE HMC 83085 WET BRAKE ONTO THE A10550 SERIES SCOOP TRAM REDUCER

1. The middle drive shaft will be disconnected and removed from the machine.
2. The rear drive shaft will need to be disconnected from the tram reducer.
3. You will then need to unbolt the tram reducer and motor from the machine deck. This will be necessary in order to slide the motor and reducer assembly back far enough to allow clearance to install the wet brake onto the output shaft of the tram reducer.
4. Both existing dry disc, park and service brake heads will need to be removed from the tram reducer.
5. The existing yoke or output flange and brake disc will then need to be removed from the tram reducer. (This is the yoke facing the center section of the machine.)
6. Before installing the new brake unit onto the output shaft, you will need to remove all the paint from the bolt face area where the original disk brake heads were mounted. This is necessary to ensure a good mounting surface between the new brake and mounting face of the tram reducer.
7. You will then slide the new brake head (p/n HMC 83085) onto the output shaft splines of the tram reducer. *NOTE: The brake bleeder ports will be in the upright position. Align all four bolt-mounting holes of the wet brake with the bolt holes in the tram reducer.*
8. You will install two (2) 5/8" x 3 1/2" grade 8 bolts in the 10:00 and 11:00 positioned bolt holes. These two (2) bolts will require the use of two (2) spacers (p/n FAB1174) between the brake head and the tram reducer. This is to compensate for the off set in the tram reducer housing.
9. There will then be one (1) 1/2" x 1 1/2" grade 8 bolt installed in the 2:00 positioned bolt hole and one (1) 1/2" x 3 1/2" bolt in the 1:00 positioned bolt hole.

To prevent binding, run the bolts in alternately until snug, then torque the 1/2" bolts to 80 – 90 ft lbs (lubed) and the 5/8" bolts to 158 – 175 ft lbs (lubed).

10. The motor, reducer, and brake assembly can then be aligned with the bolt holes in the machine deck. Install all bolts and torque to proper specifications.
11. The existing rear drive shaft can then be attached to the yoke on the tram reducer.
12. You will then install the new middle drive shaft (p/n B2200 X 11 X 2 1/2). The flange on the drive shaft will slide onto the studs on the wet brake flange. Install 8 pc 3/8" – 24 nuts and tighten.
13. Hydraulic porting:
  - \* 7/16 – 20 will be the service brake inlet
  - \* 9/16 – 20 will be the park or emergency brake inlet
  - \* The coolant inlet port will be the bottom 3/4" SAE port
  - \* The coolant outlet will be the top 3/4" SAE port

*\* This will complete the brake installation. You will need to refer to the hydraulic schematic to complete the hydraulic hosing.*