

Traction motor suspension unit (MSU) or UTUBE

Traction motor suspension units (MSU) or U-TUBE have been extensively used in locomotives to connect between frame-mounted traction motors on and the wheels.

The previously used plain friction bearings also known as support bearings used from beginning of the 1950s, are prone to wear and had to be replaced time to time. Additionally, dynamic loads usually occurring during operation of rail vehicles, such as bounces on staggered rail joints and vibrations, reduce the bearings' operating life. The other concern was the frequency of maintenance for which the level of the oil in traction motor axle caps has to maintain and the lubricator assembly has to be replaced. There is also a limit on the speed of the locomotive as the friction support bearings are subject to overheat and failure in higher speed. In order to reduce track forces and increase the travel speed which is more suitable for passenger trains, it is desirable to use MSU or U-TUBE systems.

Today's MSU or U-Tube system allows for higher speed up to 140 km/hour. In this system the support bearings are replaced by robust rolling bearings in the forms of tapered roller bearings, cylindrical roller bearings and spherical roller bearings which have proved most reliable in this type of application. Because of fully suspended TM, forces from track irregularities or wheel spinning etc. reflected to traction motor components are minimum. This will effectively reduce vibrations on the traction motors which will result in longevity of the traction motor life and less frequent services.

The most Benefits of (MSU) or UTUBE Includes:

- ✓ **Increases reliability**
- ✓ **Reduces radial clearance and maintenance costs**
- ✓ **Low starting torque**
- ✓ **Grease lubrication; no oil levels to maintain**

In response to increasing demand of our customers, we have developed a line of MSU (U-TUBE) parts for EMD D78/D87/D90BTR, EMD ITB2622 and A3432, and GE752AH Traction motors.

MSU(UTUBE) ASSEMBLY FOR GE – 752AH TRACTION MOTORS

PART NO.	DECIPTION	TYPE
41A330130P1	COLLAR	GE752AH
41A330131P1	COLLAR	GE752AH
41A330557P1	FLINGER	GE752AH
41A330126P1	FLINGER	GE752AH
41B537823P1	BEARING CAP	GE752AH
41B537824P1	BEARING HOUSING	GE752AH
41B537825P1	BEARING CAP	GE752AH
41B537902P1	GASKET,	GE752AH
41B537902P2	GASKET	GE752AH
41B538062P1	SPACER (SPLIT)	GE752AH
41B538062P2	SPACER (SPLIT)	GE752AH
41B538062P3	SPACER.080IN THICK	GE752AH
41D735294P1	U-TUBE	GE752AH
497A706P9	U-TUBE GRESE FITTING	GE752AH
8864953P128	ROLLER BEARING	GE752AH
8864953P129	ROLLER BEARING	GE752AH

MSU (U-TUBE) ASSEMBLY FOR EMD TRACTION MOTORS

PART NO.	DESCRIPTION	TYPE
40034582	BEARING ASSEMBLY ROLLER	D78/D87BTR
40034583	BEARING ASSEMBLY ROLLER	D78/D87BTR
40114741	BEARING ASSEMBLY ROLLER	D78/D87BTR
40114740	BEARING ASSEMBLY ROLLER	D78/D87BTR
40114784	BEARING INNER RACE	D78/D87BTR
40114777	BEARING INNER RACE	D78/D87BTR
40006531	CAP COMMUTATOR END	D78/D87BTR
40045550	CAP COMMUTATOR END	D78/D87BTR
40044915	CAP GEAR SIDE	A 3432
40076796	CAP PE	ITB 2622
40006529	CAP PINION END AXLE	D78/D87BTR
40037701	CAP PLUG	D78/D87BTR
40037702	CAP PLUG	D78/D87BTR
40086808	CAP-AXLE	ITB 2622
40012026	COVER	ITB 2622
40012764	COVER ASSY	ITB 2622
40114778	CUP ROLLER - OUTER	D78/D87BTR
40114786	CUP ROLLER - OUTER	D78/D87BTR
40075563	HOUSING - AXLE	ITB 2622
40006120	HOUSING BEARING	D78/D87BTR
40045562	HOUSING BEARING	D78/D87BTR
40076190	RING	ITB 2622
40076990	SEAL	ITB 2622
9084265	SEAL CAP TO BEARING	D78/D87BTR
9085559	SEAL CAP TO HOUSING	D78/D87BTR
40009050	SEAL GEAR	ITB 2622
40006527	SEAL GEAR - PINION	D78/D87BTR
40076794	SEAL PE	ITB 2622
40076798	SPACER	ITB 2622
40006526	SPACER AXLE COMMUTATOR END	D78/D87BTR

MSU (U-TUBE) ASSEMBLY FOR EMD TRACTION MOTORS (Cont'd)

PART NO.	DESCRIPTION	TYPE
40006533	SPACER CAP TO HOUSING	D78/D87BTR
40006534	SPACER CAP TO HOUSING	D78/D87BTR
40006535	SPACER CAP TO HOUSING	D78/D87BTR
40006536	SPACER CAP TO HOUSING	D78/D87BTR
40006537	SPACER CAP TO HOUSING	D78/D87BTR
40006538	SPACER CAP TO HOUSING	D78/D87BTR
40006539	SPACER CAP TO HOUSING	D78/D87BTR
40076189	TUBE	ITB 2622

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