

## OVERLAND-AJIN HO BRASS DIESEL UPGRADE

Overland/Ajin diesel showing original gearboxes and input shaft with newly installed NWSL #207-6 gearbox drive system installed on locomotive



To replace failing and disintegrating Ajin cast metal axle gearboxes:

Parts list:

- (4) #207-6 Flea auxiliary 15:1 axle gearbox kit
- (4) #2003-6 40"/110 Flea II geared wheelset, or
- (4) custom 40"/88 Flea II geared wheelset, or
- (4) custom P:87 40"/64 Flea II geared wheelset
- (1) #2015-4 1.5mm shaft material
- (2) #482-6 U-joint set (1.5mm, 2.0mm, 2.4mm)

### Installation Suggestions

1. Remove existing gearboxes/wheelsets.
2. Cut 2 pieces 1.5m dia. shaft to 1.5" length
3. Install one worm near end of 1.5mm shaft (check placement with gearbox molding).
4. Following gearbox assembly instructions, place bronze thrust washer and then gearbox molding (not coverplate) onto shaft. Then place second gearbox molding (not coverplate) on 1.5mm shaft facing in opposite direction, add bronze thrust washer and then press second worm onto shaft (very cautiously to avoid bending the shaft).
5. Press second worm onto shaft and locate to exact same spacing as axle journals in the sideframe.
6. Check assembly (see photos above) and insert geared wheelset in one gearbox and add washer and install cover plate (screws are self tapping—push and turn). Test for smooth operation, if tight, loosen screws, fiddle, reset until satisfied. Check to make sure axle journals fit in sideframe journal—if tight, clearance drill the sideframe journals to fit loosely.
7. Install second geared wheelset (make sure insulated wheels are on same side) and close up gearbox as 6 above.
8. Cut 1.5mm shaft back as necessary so U-jt cardan shaft ("dogbone") almost touches 1.5mm shaft end. Press U-jt cup onto shaft. Test operate. If locomotive operates in wrong direction, reverse wheels to place insulated side of wheelset on opposite side.
9. Enjoy.