

# Replacing Tram Motor Dual Sprocket W/Brake Disc Assembly - (LH or RH)

## Function

Remove and replace the tram motor dual sprocket with integral brake disc assembly. The brake calipers are of the spring-set, pressure to release type and must be removed to change out assembly. During normal operation, the brakes are released by the pressure developed during operation of the tram system – thereby , automatically setting whenever the tram is not operated.

This machine is equipped with a “towing package” which, when actuated, will apply pressure to the brake calipers, thereby releasing the brakes. This feature is used in adjusting the brake caliper clearance for removal from brake disc and after the replacement of sprocket assembly to re-adjust brake caliper clearance (SEE TID NO. 16 – Replacing Tram Brake Caliper Assembly)

** DANGER**


Replacing and or adjusting the brake calipers and removing the tram drive sprocket disables the braking system. In this condition, the machine is free to move in either direction.

Serious injury or death can occur as the result of this moving in an uncontrolled (braking system released) state.

Before releasing braking system:

1. Securely block all four wheels in both directions.
2. Remove the power to the machine at the power center by locking out and tagging out the machine power cable.

## Tools Needed

- Machine Service Manual
- Hand operated grease gun with SHELL GADUS S3 V220C or equivalent grease
- Combination wrenches (SAE and Metric) & Torque Wrench
- Select and Use  Before Starting Job
- Allen Wrenches (SAE and Metric)
- 0.012” (0.305mm) Feeler gauge

## Parts Needed

**NOTE: \* Consult parts book specific to serial number of machine being serviced for correct part numbers.**

PART #	DESCRIPTION	QTY
*378860	Dual Motor Sprocket w/Brake Disc	1
*	1 /4” Hose End Plug (SAE #4)	1
*130013	1 /2”-20X2” H.H.C.S. (Grade 8 Zinc Plated) - Keeper Bolt	1
*231944	Keeper	1
*25044	Connecting Master Link - (RC 120 chain)	2
*20014	1 /2”-13X1 1/2” S.H.C.S. (Grade 8 Zinc Plated) - Caliper Mount	4
*22011	Lockwasher 1 /2” - for Caliper Bolts	4

## Machine Setup

1. Locate the machine in a safe working area, under permanent roof support and outby the working face.
2. Securely block all four wheels in both directions.
3. Remove the power to the machine at the power center by locking out and tagging out the machine power cable.

**NOTICE**

The following steps will require use of the machine towing brake release feature. Consult the machine Service Manual for details concerning the use of this feature.

**Removal Procedure**

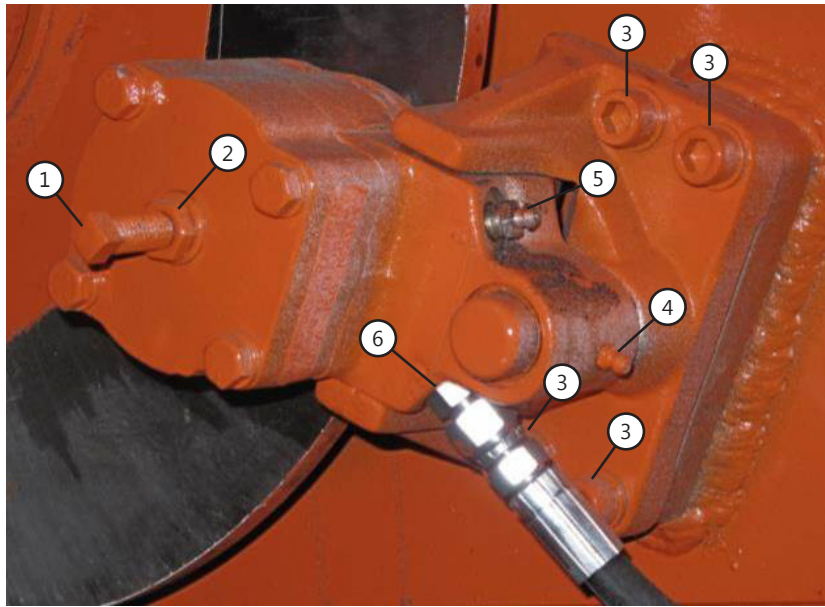
1. Disconnect the brake release pressure hose from the brake release pressure port on the brake caliper assembly (see figure 1). Plug the hose to prevent system contamination.
2. Connect the brake release pump to the brake release pressure port on the brake caliper assembly. Pump the brake release pump until the brake pressure gauge reads 1,500 psi releasing brake pads from disc.
3. Remove the four brake caliper assembly mounting bolts.
4. Remove the brake caliper assembly from the brake disc.
5. Remove the drive chains to the dual motor sprocket that connect to the front and rear countershaft sprockets with the master links on each chain (see figure 2).
6. Remove the keeper bolt that attaches the dual sprocket assembly with brake disc to tram motor shaft (see figure 3).  
(NOTE: bolt is tack welded to keeper)
7. Remove old dual sprocket assembly from tram motor shaft.

**Installation Procedure**

1. Place new dual sprocket assembly with brake disc onto tram motor shaft.
2. Install keeper in sprocket assembly and tack weld to inside of dual sprocket assembly.
3. Install new keeper bolt (1 /2"-20X2" H.H.C.S.) and tighten to 105 LBf-FT (140 Nm) then tack weld to keeper
4. Re-install inside tram chains to front and rear countershaft sprockets using new master links.
5. Re-install the brake caliper assembly onto the brake disc and into position for mounting.

6. If brake caliper will not fit on brake disc, pump the brake release pump again until the brake pressure gauge reads 1,500 psi.
7. Install the four new brake caliper assembly mounting bolts (1 /2"-13X 1 1/2" S.H.C.S.) and lockwashers then tighten to 95 LBf-FT (130 Nm).
8. Open the valve on the brake release pressure pump to release the pressure on the brake caliper.
9. Open (turn CCW) the air bleed valve on the brake caliper assembly.
10. While observing the air bleed valve on the brake caliper assembly, slowly pump the brake release pump until all air has been purged.
11. Using a hand operated grease gun, apply grease (SHELL GADUS® S3 V220C or equivalent) to brake caliper grease fitting.
12. Close (turn CW) the air bleed valve.
13. Pump the brake release pump until the brake pressure gauge reads 1,500 psi.
14. Place a 0.012" (0.305mm) feeler gauge between the brake pad and the brake disc.
15. Make sure the locking nut on the pad clearance adjusting screw is loosened.
16. Turn the pad clearance adjusting screw inward (CW) until the feeler gauge just fits between the brake disc and brake pad.
17. Tighten down the locking nut on the pad clearance adjusting screw.
18. Open the valve on the brake release pressure pump to release the pressure on the brake caliper. MAKE SURE THE BRAKE RELEASE PRESSURE SHOWS ZERO. (See machine Service Manual.)
19. Disconnect the brake release pressure pump from the brake caliper and re-connect the brake release pressure hose from the machine to the brake release pressure port on the brake caliper assembly.
20. Restore power to the machine.
21. Remove blocking from wheels.
22. Test for proper operation.

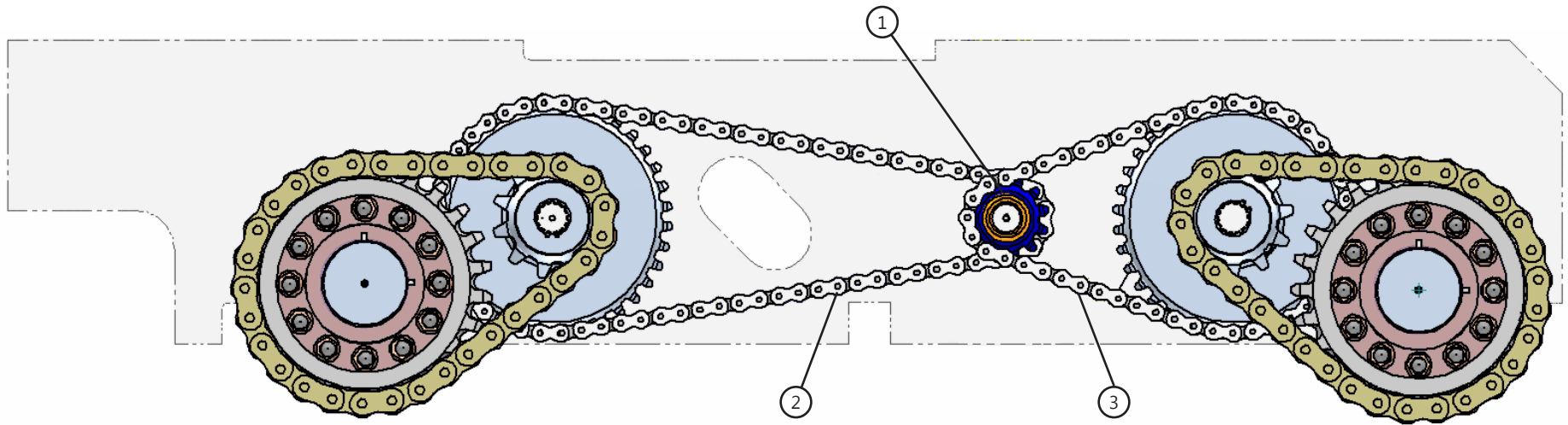
Figure 1



Component Parts (Fig. 1)

ITEM	DESCRIPTION	QTY
1	Pad Clearance Adjustment Screw	1
2	Locking Nut	1
3	Mounting Bolt	4
4	Grease Fitting	1
5	Air Bleed Valve	1
6	Brake Release Pressure Port	1

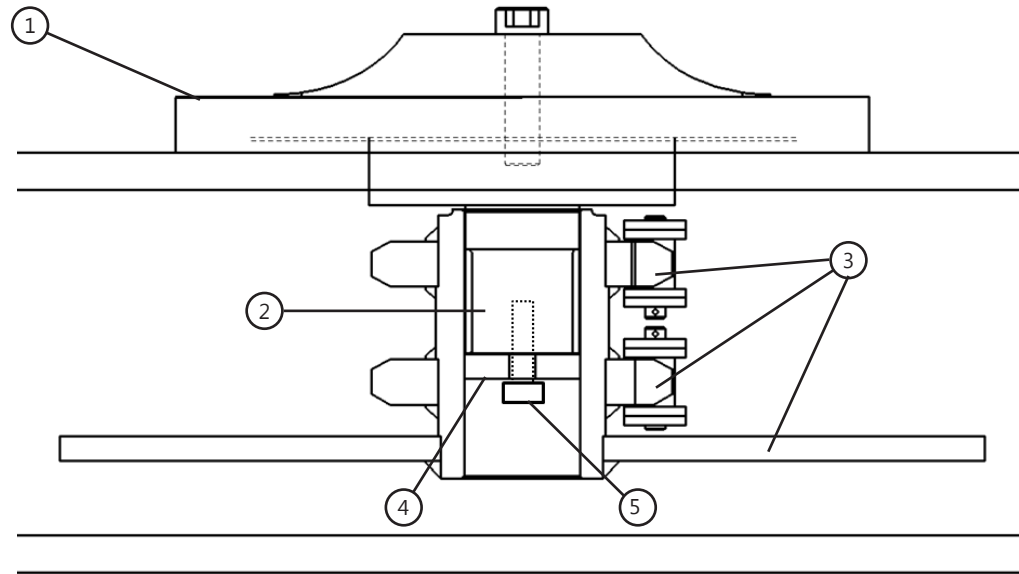
Figure 2



Component Parts (Fig. 2)

ITEM	DESCRIPTION	QTY
1	Dual Motor Sprocket w/Brake Disc (brake disc not shown)	1
2	Front Countershaft Drive Chain	1
3	Rear Countershaft Drive Chain	1

Figure 3



Component Parts (Fig. 3)

ITEM	DESCRIPTION	QTY
1	Tram Motor	1
2	Tram Motor Shaft	1
3	Dual Motor Sprocket Assembly w/Brake Disc	1
4	Keeper	1
5	Keeper Bolt (1/2"-20X2" H.H.C.S. Grade 8 Zinc Plated)	1