

## BIRRANA DRIVE WHEEL END INSTALLATION TO SUIT CAT 777 TRUCK

Most accidents involving machine operation or maintenance are caused by failure to observe basic safety rules or safety precautions. Read and understand all safety precautions and warnings, before attempting installation and operation of this component.

Birrana Engineering cannot anticipate every possible circumstance that may involve a potential hazard. You must comply with all mine-specific safety procedures, and satisfy yourself that any procedure, tool or operation method used is safe for yourself and others.

Refer to the truck manufacturer's repair and maintenance instructions in conjunction with these instructions where applicable. Obey all recommended safety instructions or warnings.

Before working on any equipment make sure that the work area is safe, and that the equipment is tagged and locked out in accordance with mine safety procedures.

1. Ensure that brake lines, brake cooling pipes and reservoir tanks are clean, and will not be a source of contamination for the new component.
2. Rekit the rotochamber and slack adjuster, or fit exchange units.
3. If required install the wheel speed sensor using the adjustment procedure found in SENR2986 Automatic Electronic Traction Aid (AETA) Service Manual. Ensure that the connector is lockwired in place after assembly.
4. If required, check that the AETA drive collar clamp (6G1999) is fastened and staked in the correct position on the half shaft so it will be aligned with the sensor.

If the **A4475 Birrana isolation seal** has been fitted, the half shaft will need to be installed through the back of the wheelend before fitting the wheelend to the truck. Follow steps 5 – 7. If an isolation seal has not been fitted proceed to step 8.

5. Remove the planetary cover and lubricate the inside of the rubber seal ring in the isolation seal with oil or petroleum jelly (Mobil 'Waxrex 511 White' or similar).
6. Apply oil or petroleum jelly (Mobil 'Waxrex 511 White' or similar) liberally to the outer end of the half shaft.

7. Insert the half shaft through the back of the spindle. Some extra force may be required to get the shaft started through the isolation seal, however once it is started it should slide freely. Continue to push the shaft through the wheelend until it protrudes a little way out through the planet carrier.

*Note: Incorrect installation of the half shaft may damage the rubber element in the centre of the isolation seal. By feeling with a blunt instrument around the face of the rubber element (through the gap between the retainer plate and the half shaft) it should be possible to determine if any tears are present.*

8. Thoroughly clean all mounting surfaces and check for burrs before installing the wheel group. Ensure that all rust inhibitor is removed from the wheel studs and the wheel flange to allow for proper torque on the hex nuts and wheel studs.
9. Fit o-ring to spindle register. Grease may be used to hold the o-ring in place if required. Do not get grease on spindle mounting face.
10. Fit the wheel end, and torque all mounting bolts to specification.
11. If traction aid is fitted, install the traction aid sensor guard with appropriate spacers.

*If you require any further assistance with this procedure please contact your local Birrana representative.  
Adelaide (08 8445 7755) Perth (08 9370 5048) Mackay (07 4952 5422) Singleton (02 6571 4488)*

12. Inspect all oil lines for serviceability and cleanliness prior to use and fit brake fittings from the former wheel end if required. Use new o-ring seals on all fittings and connect the lines and hoses to the rear brake.
13. Slide the half shaft into the wheelend ensuring that it locates correctly within the differential.
14. Install sun gear thrust over half shaft, and then install sun gear, and circlip. Note that retainer plates to suit AETA (1062624) have a larger hole that requires a collar and a thrust to be fitted (6G5905 and 7D9476). Retainer plates with the smaller hole (2G6224) have a thrust only (2G6208).
15. Reinstall final drive cover and O-ring. Apply Loctite 262 and torque nuts to 122 Nm (90ft lbs).
16. Refill the axle housing and wheel end(s) separately with appropriate oil.
17. Install the rims and tyres and check that the tyres are inflated to the appropriate pressure.
18. Ensure that there is no tyre contact on the rock ejector.
19. With the temperature of the brake cooling oil between 79°C and 93°C, check the brake inlet cooling pressure. With the engine at low idle the pressure must not be below 2psi (14kPa), and at high idle must not be above 25psi (172kPa). If the pressure is exceeded, seal damage will result.
20. Be sure to re-torque rim nuts as required by OE specification.
21. If required advise Birrana Engineering of the wheelend serial number, truck number, position fitted, and truck hours.

