

SERVICE MANUAL

SERVICE MANUAL SECTION

PRE-DELIVERY/QUALITY INSPECTION INSTRUCTION MANUAL FOR 3300 MODEL

Model: 3300

S10012

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DESCRIPTION

GENERAL INFORMATION

IMPORTANT – Use these instructions along with the 3300 model form (S00029) when inspecting this model.

These instructions explain how to inspect the vehicle to be sure it is ready for delivery to the customer. Each inspection operation on the report has a corresponding procedure on the following pages.

Original should be retained at the PDI facility.

NOTE – Fill in the information block on the report after the vehicle is driven into the inspection area.

The instructions described in this manual follow the order of operations listed in the Pre-Delivery/Quality Inspection Report. If, while performing an inspection a question comes up, use the form as a guide to help find the correct reference information inside this manual.

EXAMPLE: For a question about the driver controls, refer to the operation on the report : number 32. Go to Step 32.

1. 3300 MODEL INSPECTION INSTRUCTIONS (REPORT S00029)

1. *Prepare vehicle for PDI inspection — wheel chocks*

- A. PDI Inspection area should take place in a well-lit location with a level floor.
- B. Install wheel chocks.
- C. Turn OFF key.
- D. On air brake vehicles, release parking brake.
- E. Indicate on Inspection Report the vehicle Model, Plant, PDI Facility, VIN, Service Invoice No., and Customer.

2. *Routing and clipping under vehicle — secure, meets specifications*

- A. All cables, hoses, and wires should be:
 - 1. Well supported every 24" or less.
 - 2. Free from tension
 - 3. 5" from any heat source unless shielded
 - 4. 3" from any heat source if shielded
 - 5. Clear from any rub or pinch point
 - 6. Free from crimping
 - 7. Should NOT block access to any fluid fill point
 - 8. Compressor discharge line should be free from any low points, or "traps"

B. Items included in this check:

1. Electrical wiring harnesses
2. Battery cables
3. Air hoses
4. Fuel hoses
5. Coolant / heater hoses
6. Power steering hoses
7. Transmission cooler / retarder lines
8. Hydraulic brake hoses
9. Add-on hydraulic hosing

C. Listen for audible air leaks.

There should be no audible air leaks.

D. If problems are found with routing and clipping or air leaks, correct as needed.

3. *Center Bearing Alignment - square and tight*

- A. Verify that center bearing isolator is not out of carrier alignment.
- B. Verify that center bearing assembly mounting bolts are tight.
- C. Correct as needed.

4. *Check Exhaust System - secure, tight, positioned correctly*

- A. Check that muffler / tailpipe hangers are tight.
- B. Check that muffler / tailpipe clamps are tight.
- C. Check that muffler / tailpipe assembly is positioned correctly.
- D. Correct as needed.

5. *Rear Axle Oil Level - full*

- A. Verify that rear axle oil level is filled level with fill port. Add fluid as needed.
- B. Verify that rear axle drain plug is snug and leak-free.

6. *Spring U-bolts - retorque*

- A. Refer to the Torque Chart for specifications.

Table 1 U-Bolt Nut Torque Chart

U-Bolt Dia. (Nominal)	Torque: Ft-lbs.	Torque: Nm
5/8 Inch Flanged Lock Nut	130-160	176-217
3/4 Inch Flanged Lock Nut	200-240	271-325
7/8 Inch Hex Head With Washer	260-300	350-380
1 Inch Hex Head With Washer	325-400	441-543

7. Wheel Lug Nuts - retorque

- A. Determine nut size, type, and torque specification.
- B. Re-torque all wheel rim nuts following the proper tightening sequence.
- C. Refer to the Wheels, Rims, and Tires section in GROUP 17 of the Master Service Manual for additional information.

8. Tires - proper inflation

- A. Tire pressure should be checked with a pressure gauge.
- B. Tires may come from the vendor inflated above the maximum pressure indicated on the sidewall.
- C. If tires are inflated beyond the maximum pressure indicated on the sidewall, they should be left at that pressure.
- D. Rear tires should be inflated to 90 +/- 5 psi, at minimum.
- E. Front tires should be inflated to the maximum pressure indicated on the sidewall, at minimum.
- F. Tire pressure should be equal for all tires on an axle.
- G. Correct as needed.
- H. Re-install valve stem caps properly.

9. Front Hub Oil Level (if equipped) - between indicators

- A. Oil level on oil filled front hubs should be between indicators.
- B. Add appropriate oil as needed to bring level to the indicator circle on the hub.

10. Battery Cable tightness, Battery Box routing - tight, secure, greased; Battery state of charge: 12.6 volts minimum

- A. Battery cable end connections should be tight and secure.
- B. Battery cable end connections should be protected by a dielectric grease.
- C. Cables are not crimped or rubbing when box moves.
- D. Correct as needed.
- E. Charge batteries to 12.6 volts.

11. *Turbo downpipe - tight and secure, no contact with other hardware*

- A. Verify turbo to downpipe connection is secure and well positioned.
- B. Downpipe makes no contact with other vehicle hardware.
- C. Correct as needed.

12. *Starter / Alternator / Ground Connections - tight, secure, greased*

- A. Inspect cable end tightness. Connections should be tight and coated with dielectric grease.
- B. Cable ends make no contact with other vehicle hardware.
- C. Correct as needed.

13. *Engine compartment routing / clipping - secure, meets specifications*

- A. All cables, hoses, and wires should be:
 - 1. Well supported every 24" or less.
 - 2. Free from tension.
 - 3. 5" from any heat source unless shielded.
 - 4. 3" from any heat source if shielded.
 - 5. Clear from any rub or pinch point.
 - 6. Free from crimping.
 - 7. Should NOT block access to any fluid fill point.
 - 8. Compressor discharge line should be free from any low points, or "traps".
- B. Items included in this check:
 - 1. Electrical wiring harnesses.
 - 2. Battery cables.
 - 3. Air hoses.
 - 4. Fuel hoses.
 - 5. Coolant / heater hoses.
 - 6. Power steering hoses.
 - 7. Transmission cooler lines.
 - 8. Hydraulic brake lines.
 - 9. Refrigerant lines.
- C. If problems are found with routing and clipping, correct as needed.

14. *Engine compartment wire harness connections - fully latched*

- A. Verify all wire harness electrical connections are securely latched.
- B. Correct as needed.

15. *Engine Oil Level - above half full*

- A. Vehicle should be parked on a level surface.
- B. Engine oil level should register between half-full and full on dipstick. Add proper oil as needed to correct fluid level.

16. *Engine Coolant Level - above half full*

- A. Coolant level should register between midpoint of MIN-MAX indicators and MAX indicator on transparent surge tank.
- B. Add proper coolant as needed.

17. *Washer Fluid Level - above half full*

- A. Washer fluid level should be half-full or higher. Add fluid as required.

18. *Cotter keys / lock tabs present, properly spread - steering / brakes*

- A. Replace missing or damaged cotter keys or lock tabs.

19. *Air induction system hose clamps - tightness, position*

- A. Verify clamp orientation allows good access.
- B. For air induction clamps:
 - 1. Aluminum pipe, re-tighten to 50 - 60 in-lb.
 - 2. Steel pipe, re-tighten to 70 - 75 in-lb.

20. *Gauges and Dash Warning Lights - function properly.*

- A. With engine off and key in RUN position, gauges will self test with a full clockwise sweep.
- B. With engine off and key in RUN position, warning lights will illuminate.
- C. If any gauge points to 6:00 position, data is out of range or no data is available. Correct as needed.

21. *Neutral Safety Switch - starter activates in Neutral or Park position only*

- A. Select all gear ranges and turn key to START position. Starter MUST NOT ACTIVATE except in NEUTRAL or PARK position.
- B. Start vehicle.

22. *DOT Park Brake Test - Air Brake*

- A. Apply and hold service brake.
 - 1. Pressure should drop no more than 3 psi in one minute.

- B. Cycle service brake pedal to deplete air pressure.
 - 1. Alarm must sound at 55 psi or higher.
 - 2. Park brake must apply at 20 psi or higher.
- C. Correct as needed.

23. Hydraulic Brake Fluid Level - above half full

- A. Turn key ON if engine is not already running. Pump brake pedal quickly five times. Wait until pump motors stop running.
- B. Hydraulic Brake fluid level should register between midpoint of MIN-MAX indicators and MAX indicator on transparent reservoir.
- C. DO NOT OVERFILL. Reservoir can appear to be overfilled when key is in OFF position. Add appropriate fluid as needed to correct fluid level.

24. Automatic Transmission Fluid Level - above half full

- A. With vehicle running and in neutral or park position, check transmission fluid level. Fluid level should register between midpoint and Full mark in Cold range. Add appropriate fluid as needed to correct fluid level.

25. Power Steering Fluid Level - above half full

- A. Power steering fluid level should register between half-full and full range. Add appropriate fluid as needed to correct fluid level.

26. Steering Intermediate Shaft Pinch Bolts, Both Ends - torqued off

- A. Pinch bolts should be twisted off on both ends of steering intermediate shaft.
- B. Correct as needed.

27. Gear Selector Function - each detent selects correct gear

- A. With foot on brake, select all gear ranges. Verify proper function and adjustment of gear selector.
- B. Verify proper operation of PRNDL on dash if equipped.
- C. Correct as needed.

28. Park Brake Function - holds and rolls when it should

- A. With Park Brake set and vehicle in drive gear, release service brake. Vehicle must not move. Park Brake indicator must be lit.
- B. With Park Brake released, Park Brake light must not be visible. Vehicle must be able to move.

29. Lights - external

- A. Check exterior lights. Use of mirrors in inspection bay is recommended.
- B. Correct as needed.

30. *Driver's Area condition - restraints, seat, controls*

A. Verify proper installation and condition of Driver's Area.

B. Included Items:

1. Restraints
2. Seat
3. Steering wheel
4. Controls

C. Correct as needed.

31. *Clear inactive fault codes*

A. Hook up Electronic Service Tool (EST). Clear inactive fault codes.

32. *Driver Controls - function properly*

A. Check for proper function of systems:

1. Service brake
2. Accelerator
3. Steering
4. Retarder (Do NOT engage retarder on slick road surfaces)
5. Cruise Control / Hand Throttle
6. Self-Canceling Turn Signal

B. Correct as needed.

33. *Gauges - function properly*

A. Check for proper function of gauges:

1. Speedometer
2. Tachometer
3. Oil Pressure
4. Water Temperature
5. Voltmeter
6. Air Pressure
7. Fuel Level

B. If any gauge goes to 6:00 position, data is out of range or not available.

34. *Engine, Transmission, Brakes, Steering - performance*

- A. The following characteristics should be considered:
 - 1. Idle quality - smooth
 - 2. Acceleration - smooth and powerful
 - 3. Shifts - crisp but not harsh
 - 4. NVH (Noise, Vibration, and Harshness) - smooth and quiet, no shuddering, squeaking, buzzing, hissing, whining
 - 5. Braking / Retarder - smooth and powerful
 - 6. Steering - Tight and straight, no pull or vibration
 - 7. Oil Pressure - 25 - 40 psi, engine warm
 - 8. Water Temperature - 235 F max, engine hot
 - 9. Volts - 12.5 - 15.5V with engine at idle and low electrical accessory load.
- B. Each parameter should be within an acceptable range per vehicle type and class.
- C. Road test course should be nominally 6 miles and should include reverse operation and full-lock turns in right and left directions. Road test should include road speed of 50 mph or higher.

35. *Steering Wheel Alignment — +/- 6 degrees*

- A. The steering wheel mounts to the steering column shaft by a 72 tooth spline. This spline mounting makes it impossible to perfectly align the steering wheel. Each spline represents approximately 6 degrees. This means the steering wheel cannot be adjusted in less than 6 degree increments. If you have either an 18 inch or a 20 inch steering wheel, the 6 degrees represent approximately 1 inch distance as measured at the outside edge of the wheel.

36. *Fault Codes - check*

- A. Check for fault codes.
- B. Correct as needed.

37. *Engine Coolant Level - hot - above half full*

- A. Coolant level should register between midpoint of MIN-MAX indicators and MAX indicator on transparent surge tank when engine is warm.
- B. Add proper coolant as needed.

38. *Visible Fluid or Audible Air Leaks - Engine Compartment - none*

- A. There should be no visible fluid or audible air leaks.
- B. Items included in check:
 - 1. CAC hosing
 - 2. Air hoses
 - 3. Fuel hoses
 - 4. Coolant hoses
 - 5. Power steering hoses
 - 6. Transmission cooler / retarder lines
 - 7. Hydraulic brake hoses
- C. Locate and correct if needed.

39. *Bottom Side Leaks - none*

- A. Check gaskets, seals, hoses, connections, and low points on housings on components that contain fluids.
- B. Included components:
 - 1. Engine
 - 2. Transmission
 - 3. Radiator
 - 4. Transmission Cooler
 - 5. Transmission Retarder
 - 6. Drive Axle
 - 7. Fuel Tank / Fuel Delivery System
 - 8. Chassis Power Steering lines
 - 9. Hydraulic Brake tubing
 - 10. Exhaust connections
- C. Verify manual operation of drain valves if equipped with air tank(s).
- D. Correct as needed.

40. *Air Tank Drain Valves - function properly*

- A. All air tank drain valves must function properly.

41. *PDI Location Code, Date - ADD to Vehicle Identification Label*

42. *Vehicle Certification Label - ADD - See NEW VEHICLE PROCESSING MANUAL*

43. *Pre-Delivery Service Identity Sticker (CTS-1122) - affix to windshield*

PRE-DELIVERY SERVICE	
MODEL	VEHICLE IDENTIFICATION NO.
SERVICING LOCATION	INVOICE NO.

Pre-delivery Service Performed By: _____ Date _____

CTS-1122D

(Front Side)

S	
MOISTEN THIS SIDE – APPLY TO WINDSHIELD	

(Back Side)

Figure 1 Pre-Delivery Service Identity Sticker (CTS-1122)

44. *COMMENTS - complete*