



TESCO OEM

RECERTIFICATION OVERVIEW

HC, HCI(S) AND HS TOP DRIVE MODELS

LEVEL IV



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This document describes the scope of work included in a TESCO OEM Level IV inspection. Every TESCO OEM Level IV inspection and recertification shall include the replacement of all fasteners, bearings, seals, O-rings, relief valves and hoses.

1. The top drive unit is cleaned and de-greased.
2. The top drive unit is rigged up to the driller's panel, power module and mechanical module.
3. All systems and components are checked for proper functioning and all functional problems, damage and/or system leaks are noted.
4. The power unit and driller's panel are disconnected from top drive.
5. The load path components are disconnected and removed.
6. The grabber and grabber leg are removed from the pipe handler. The grabber leg, clamping box assembly and grabber torque box are then disassembled, blasted magnetic particle inspected and, if no damage is noted, painted, reassembled and documented.
7. The grabber cylinder is disassembled. The cylinder is inspected then, if no noted damage, Kemplated, resealed, reassembled and pressure tested.
8. The motor manifold is removed, disassembled, soda blasted, magnetic particle inspected, reassembled, bench-tested, documented, reassembled and painted.
9. The motor manifold internal components are inspected, then resealed/replaced as necessary.
10. The high-pressure hydraulic piping is blasted, magnetic particle inspected and painted.
11. The hydraulic motors are removed from gearbox, inspected, bench-tested, documented, fitted with a new shaft seal, soda blasted and painted.
12. The swivel (if applicable) is disassembled. The swivel body and bearing retainers are then blasted, magnetic particle inspected and repainted. The swivel is reassembled with all new bearing and seals.
13. The gearbox is disassembled and all internal parts are visually and MPI inspected and documented. The gearbox housing and bearing retainers are blasted, magnetic particle inspected, documented and repainted. If no noted damage, the gearbox is reassembled with all new bearings and seals.
14. The swivel body, pin bores, link pins, links, becket pins and bores are measured and documented.
15. The counter-balance system is disassembled, then blasted, inspected, painted, and, if no damage is noted, reassembled.
16. The quill and/or load sub is magnetic particle inspected and thickness tested, the threads are gauged, Kemplated and documented.
17. The load collar is measured, blasted, magnetic particle inspected, documented and painted.
18. The load nut is visually inspected and magnetic particle inspected and documented.

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19. The mudsaver valve is visually and magnetic particle inspected, the threads are gauged, then the valve is pressure tested and documented.
 20. The roto-actuator is visually and magnetic particle inspected and documented.
 21. The driller's panel is visually inspected, cleaned, and resealed. All wiring and terminals are inspected, tightened and corrected if necessary.
 22. The top drive junction box inspected, repaired/refinished/replaced as necessary and resealed.
 23. The auxiliary manifold is removed and disassembled. All wiring and terminals are inspected, tightened and corrected, if necessary.
 24. All auxiliary manifold circuit relief valves are replaced.
 25. All directional valves are visually inspected, resealed and bench-tested.
 26. All hydraulic hosing is replaced.
 27. The main frame is blasted and visually inspected, and the critical dimensions are measured. The frame is then magnetic particle inspected and painted.
 28. The slewing bearing is removed and disassembled, visually and magnetic particle inspected and, if no damage is noted, then reassembled.
 29. The pipe handler lock segment is visually, magnetic particle inspected and documented.
 30. The rotary seal is removed and all fittings are replaced. The seal is then statically and dynamically pressure tested, documented and painted.
 31. All cylinders are visually inspected, function and leak tested, and painted.
 32. The pipe handler is disassembled, blasted, visually and magnetic particle inspected, documented and painted.
 33. The results of the function test are provided, as a visual damage report complete with recommended repairs. A detailed quote on required repairs, including labor, will be provided. All applicable upgrades and retrofits will be explained/quoted to the customer and installed only upon approval.
 34. After authorized repairs are completed, the complete top drive is reassembled, all functions are tested, and the unit is Dyno-Tested for four consecutive documented hours.
 35. A detailed invoice and complete certification documentation package are provided.
 36. Tesco strongly recommends that the Power Module, Mechanical Module, Service Loop, Torque Bushing and Torque Arrest System be subjected to a detailed inspection and refurbishment, at this time.
 37. One day of field service technician time, at the rig, is provided to rig up the top drive. Travel and accommodations will be the responsibility of the client.

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