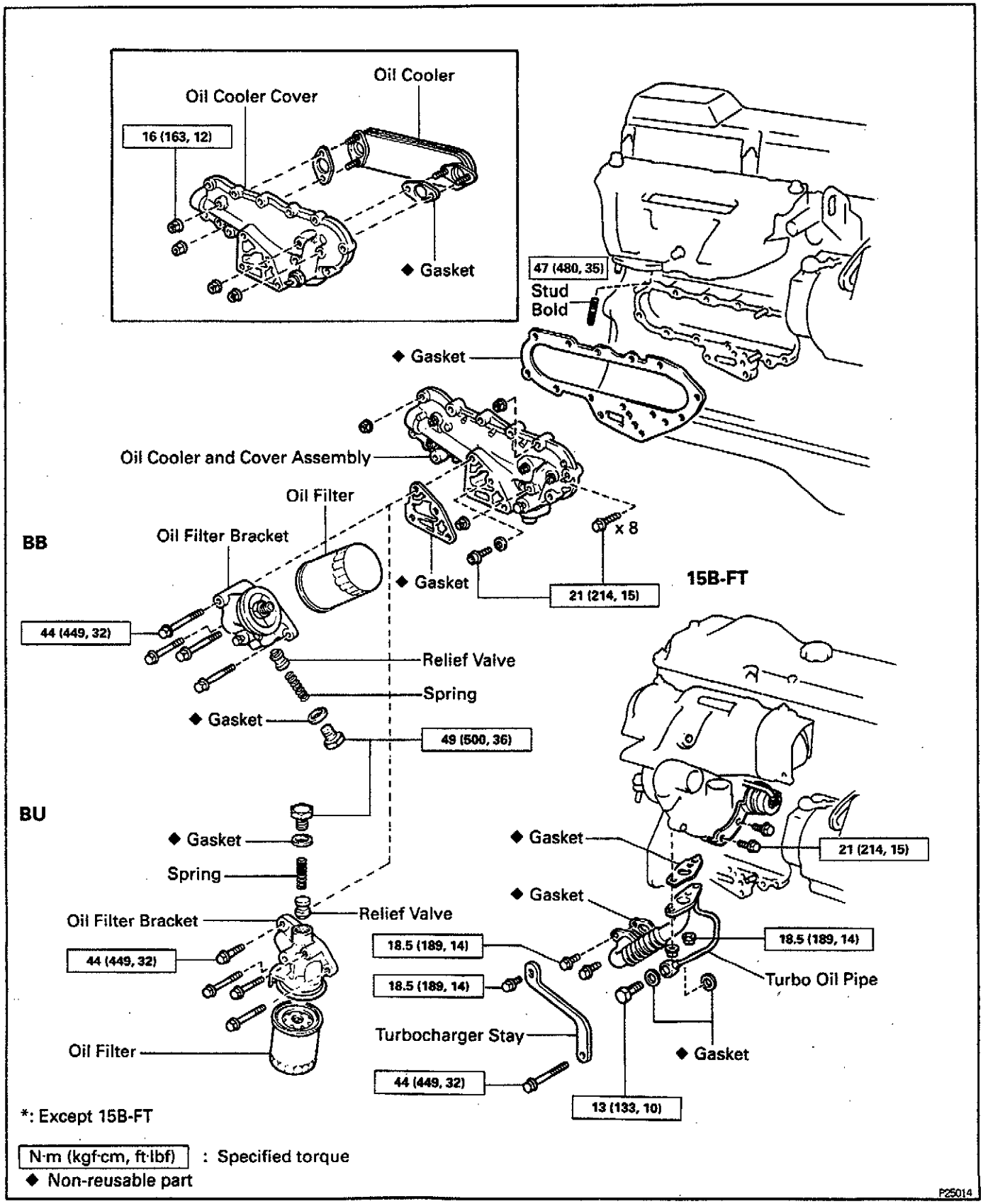
OIL COOLER

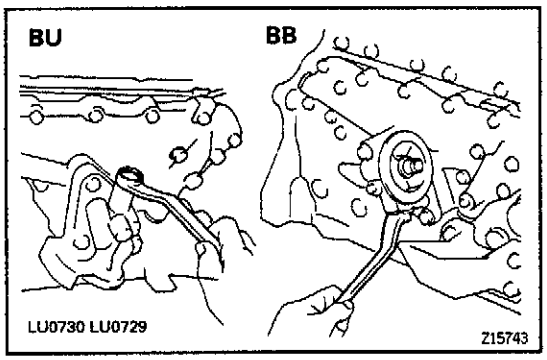
COMPONENTS FOR REMOVAL AND INSTALLATION



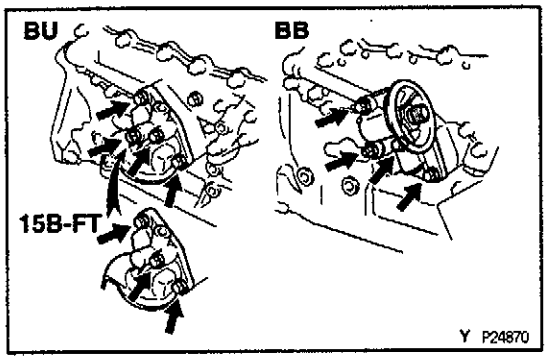
EG

OIL COOLER REMOVAL

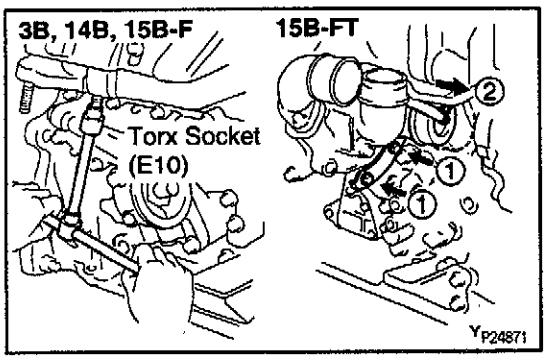
1. **DRAIN ENGINE COOLANT**
2. **REMOVE OIL FILTER**
   (See step 2 in oil and filter replacement)
3. **15B–FT:**
   REMOVE TURBO OIL PIPE AND TURBOCHARGER STAY (See steps 3 and 5 in turbocharger removal in Turbocharger System)



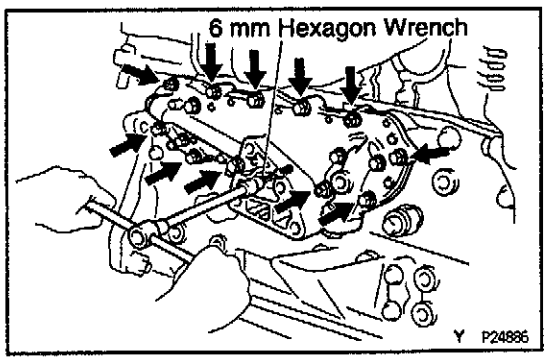
4. **REMOVE RELIEF VALVE**
   Remove the plug, gasket, spring relief valve and gasket.



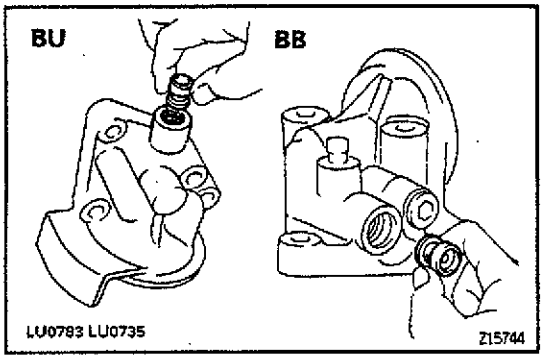
5. **REMOVE OIL FILTER BRACKET**
   Remove the 4 (3B, 14B, 15B–F) or 3 (15B–FT) bolts, bracket and gasket.



6. **3B, 14B, 15B–F:**
   REMOVE STUD BOLT FOR EXHAUST MANIFOLD
   Using a torx socket (E10), remove the stud bolt.
7. **15B–FT:**
   REMOVE BOLTS HOLDING ACTUATOR TO TURBOCHARGER
   Remove the 2 bolts, pull the actuator.
   NOTICE: Be careful not to bent or damage the actuator rod.

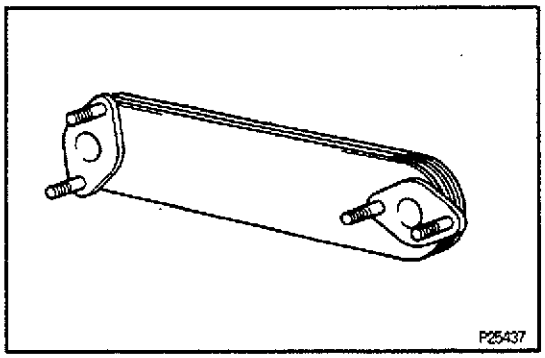


8. **REMOVE OIL COOLER AND COVER ASSEMBLY**
   (a) Using a 6 mm hexagon wrench, remove the bolt and washer.
   (b) Remove the 8 bolts, 3 nuts, the oil cooler, cover assembly and gasket.
9. **REMOVE OIL COOLER FROM OIL COOLER COVER**
   Remove the 4 nuts, oil cooler and gasket.

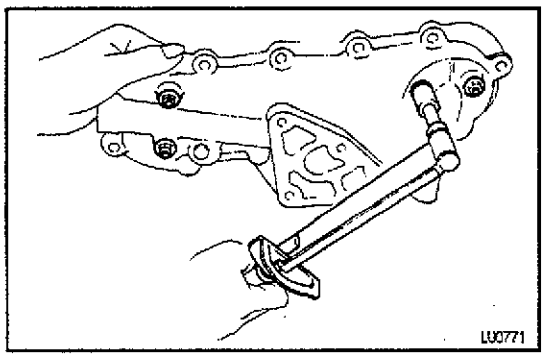


OIL COOLER AND RELIEF VALVE INSPECTION

1. **INSPECT RELIEF VALVE**
   Coat the valve with engine oil and check that it falls smoothly into the valve hole by its own weigh.
   If is not, replace the relief valve. If necessary, replace the oil filter bracket.

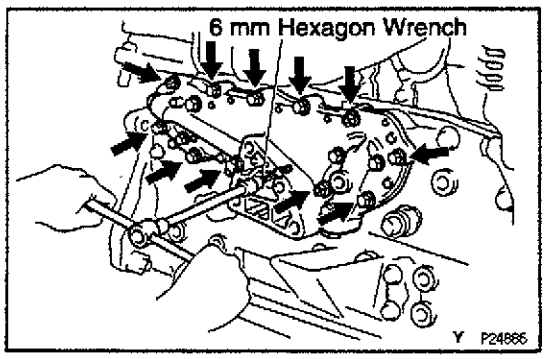


2. **INSPECT OIL COOLER**
   Check the oil cooler for damage or clogging.
   If necessary, replace the oil cooler.

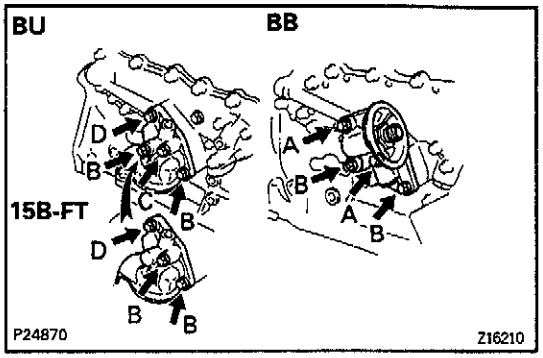


OIL COOLER INSTALLATION

1. **INSTALL OIL COOLER TO OIL COOLER COVER**
   Install 2 new gaskets and the oil cooler to the oil cooler cover with the 4 nuts.
   Torque: 16 N·m (163 kgf·cm, 12 ft·lbf)



2. **INSTALL OIL COOLER AND COVER ASSEMBLY**
   (a) Install a new gasket, the oil cooler and cover assembly with the 8 bolts and 3 nuts. Uniformly tighten the bolts and nuts in several passes.
   Torque: 21 N·m (214 kgf·cm, 15 ft·lbf)
   (b) Using a 6 mm wrench, install the washer and bolt.
   Torque: 21 N·m (214 kgf·cm, 15 ft·lbf)
3. **3B, 14B, 15B—F:**
   INSTALL STUD BOLT FOR EXHAUST MANIFOLD
   Torque: 47 N·m (480 kgf·cm, 35 ft·lbf)
4. **15B—FT:**
   INSTALL BOLTS HOLDING ACTUATOR TO TURBOCHARGER
   Torque: 21 N·m (214 kgf·cm, 15 ft·lbf)



EG

5. **INSTALL OIL FILTER BRACKET**
   Install a new gasket and the oil filter with the 4 (3B, 14B, 15B–F) or 3 (15B–FT) bolts.
   Torque: 44 N·m (449 kgf·cm, 32 ft·lbf)
   HINT: Each bolt length is indicated in the illustration.
   Bolt length:
   A 75 mm (2.95 in.)
   B 70 mm (2.76 in.)
   C 55 mm (2.17 in.)
   D 35 mm (1.38 in.)
6. **INSTALL RELIEF VALVE**
   Install the relief valve and spring with a new gasket and the relief valve.
   Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)
7. **15B–FT:**
   INSTALL TURBOCHARGER STAY AND TURBO OIL PIPE
   (See steps 6 and 8 in turbocharger installation in Turbocharger System)
8. **INSTALL OIL FILTER**
   (See step 2 in oil and filter replacement)
9. **FILL WITH ENGINE COOLANT**
10. **START ENGINE AND CHECK FOR LEAKS**
11. **CHECK ENGINE OIL LEVEL**