

## Torque Ratings for Power Take-off Mounting Pads

1. **Scope**—This SAE Recommended Practice is intended to serve as a reference for the amount of torque that a Power Take-Off can induce on the transmission mounting pad. This document will apply to six-bolt, eight-bolt, and rear mounted power take-offs.

1.1 **Purpose**—The purpose of this document is to inform the transmission designer about possible structural requirements of the transmission housing due to loading applied by the power takeoff and any other auxiliary drive components.

2. **References**

2.1 **Related Publications**—The following publication is provided for information purposes only and is not a required part of this specification. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J772—Clearance Envelopes for Six-Bolt, Eight-Bolt and Rear Truck Transmission Mounted Power Take-Offs

3. **Notes**

3.1 **Six-Bolt Power Takeoffs**—Transmissions with a six-bolt power takeoff opening typically will be exposed to maximum of 543 N-m (400 ft-lb) output torque. This will be in addition to any overhung loads supported by the power takeoff, see 3.4. Separating forces at the mounting pad should be calculated based on the maximum PTO output torque and the speed ratio of the PTO and transmission.

3.2 **Eight-Bolt Power Takeoffs**—Transmissions with an eight-bolt power takeoff opening typically will be exposed to maximum of 678 N-m (500 ft-lb) output torque. This will be in addition to any overhung loads supported by the power takeoff, see 3.4. Separating forces at the mounting pad should be calculated based on the maximum PTO output torque and the speed ratio of the PTO and transmission.

3.3 **Rear-Mounted Power Takeoffs**—Transmissions with a rear-mount power takeoff opening typically will be exposed to maximum of 678 N-m (500 ft-lb) output torque. This will be in addition to any overhung loads supported by the power takeoff, see 3.4. Separating forces at the mounting pad should be calculated based on the maximum PTO output torque and the speed ratio of the PTO and transmission.

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**3.4 Over Hung Loads**—Power Takeoffs frequently are used to support a direct mounted hydraulic pump or other auxiliary power equipment. Power takeoffs usually are required to be able to support a maximum over hung load of 178 N (40 lb) at a maximum distance of 460 mm (18 in) from the centerline of the transmission opening. Any load over 178 N (40 lb) regardless of distance from centerline of opening should be supported with a bracket attached to the transmission housing; and any load, regardless of weight, further than 460 mm (18 in) from the centerline of the transmission opening should be supported with a bracket attached to the transmission housing. See Figure 1.

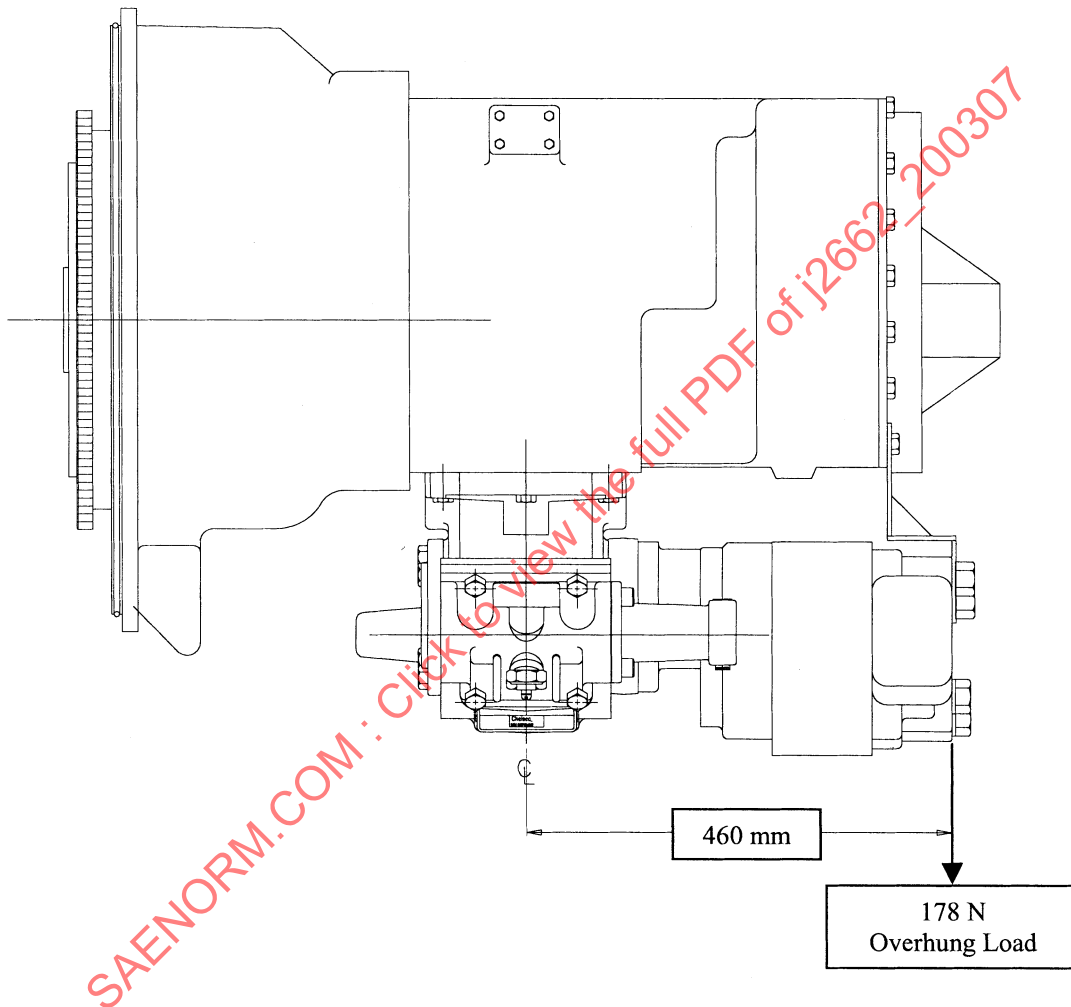


FIGURE 1—TRANSMISSION WITH PTO AND OVERHUNG LOAD

PREPARED BY THE SAE TRUCK AND BUS POWER TAKE-OFF SUBCOMMITTEE OF THE  
SAE TRUCK AND BUS CHASSIS AND POWERTRAIN COMMITTEE