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AUTOMOTIVE - TEST STANDS

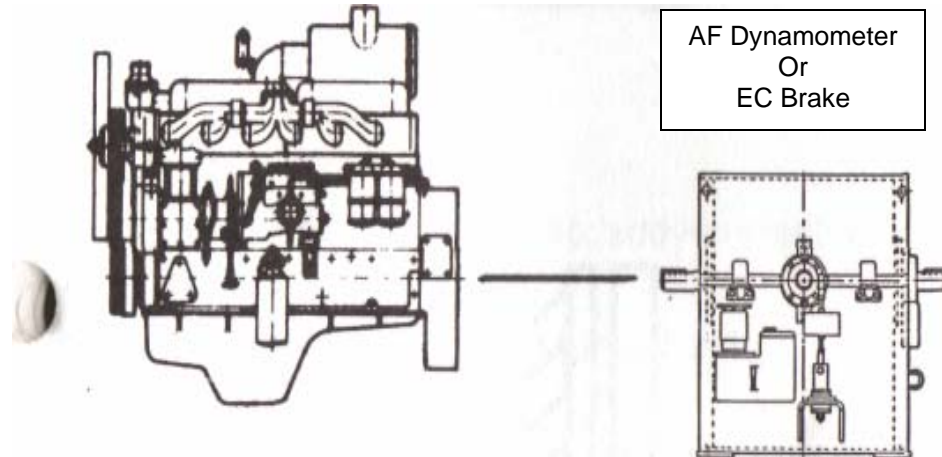
Test stands are used to control and measure torque, speed and horsepower, both input and output, of a manufacturer's product. These test stands can be fairly simple or very complex, with special mechanical and electronic equipment. In addition, because of the need for extensive test data, the electronic portion of the systems can include automated input command interfaces and data acquisition interfaces from a number of output points.

Typical Test Stand Configurations Include:

Example:

1. Internal Combustion Engine Test

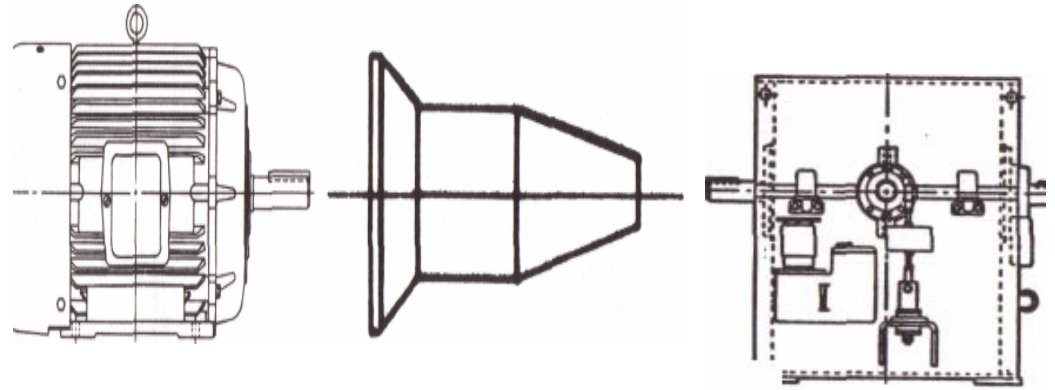
Drive/Brake Type: 40 – 3000 HP, Eddy-Current Absorption Brake or Adjustable Frequency Dynamometer.
Controller: Current or Torque With Blending.



2. Transmission or Torque Converter Test

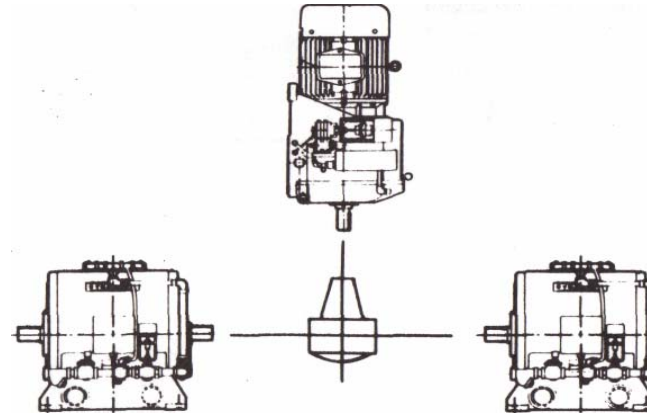
Drive Type: Typically 100 To 3000 HP, Eddy-Current Absorption Brake or AF Dynamometer.
Controller: Speed or Torque Drive And Absorber.
High System Response Required For Automatic Transmission.

Example:



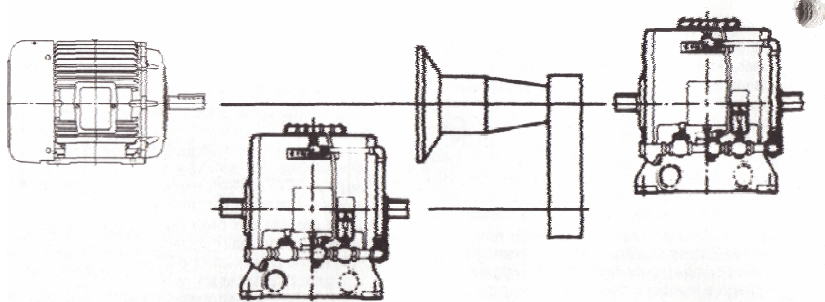
3. Differential Test

Drive Type: 100 To 3000 HP, Eddy-Current Absorption Brake or AF Dynamometer.
Controller: Torque Drive, Individual Speed Absorbers.

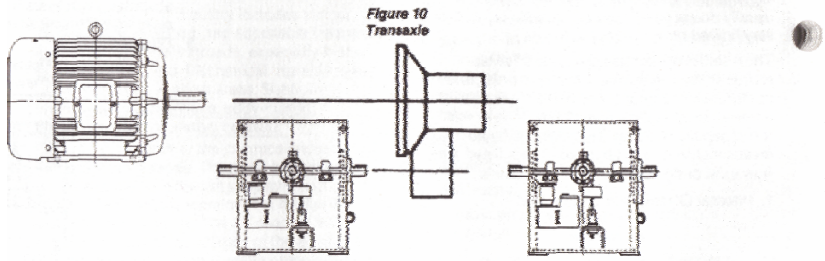


Example:

Example:



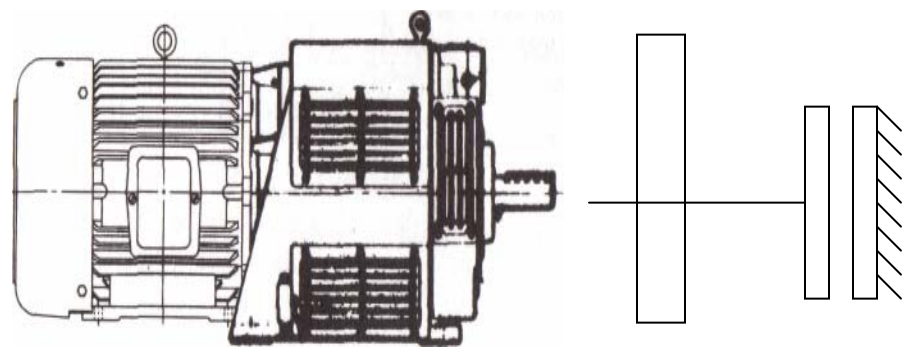
4. Four-Wheel Drive Transfer Box Test
 Drive Type: 100 To 3000 HP, Eddy-Current Absorption Brake or AF Dynamometer
 Controller: Torque Drive, Individual Speed Absorbers.



5. Transaxle Test
 Drive Type: 50 To 125 HP, Eddy-Current or Adjustable Frequency Drive, Eddy Current Brake Or AF Dynamometer Absorber.
 Controller: Torque Drive, Individual Speed Absorbers.

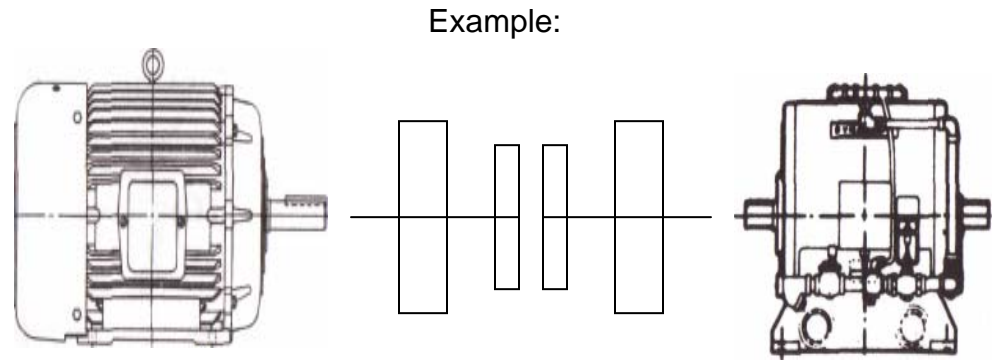
6. Brake Test
 Drive Type: 100 To 200 HP, Eddy-Current.
 Controller: Speed With Torque Limit.

Example:



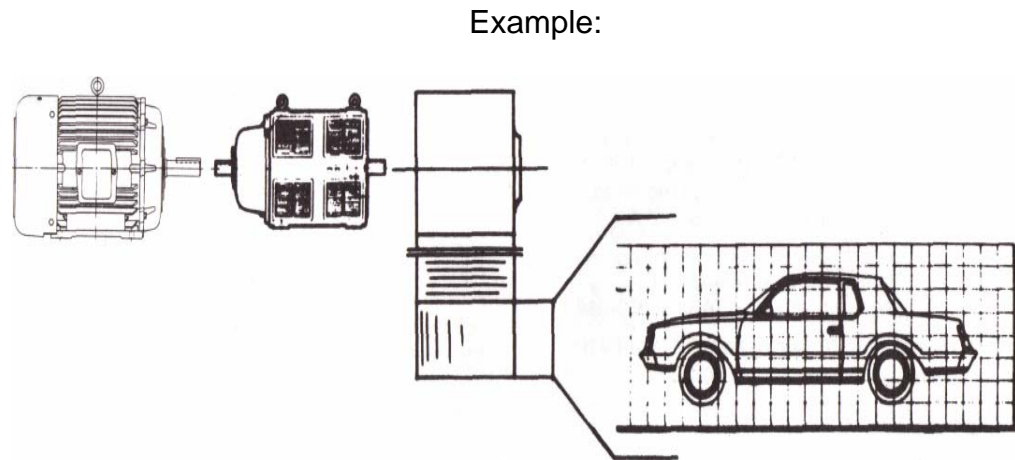
7. Clutch Test

Drive Type: 100 To 200 HP, Eddy-Current or Adjustable Frequency Drive, Eddy-Current Brake Absorber.
Controller: Speed With Torque Limit Drive, Torque Absorber.



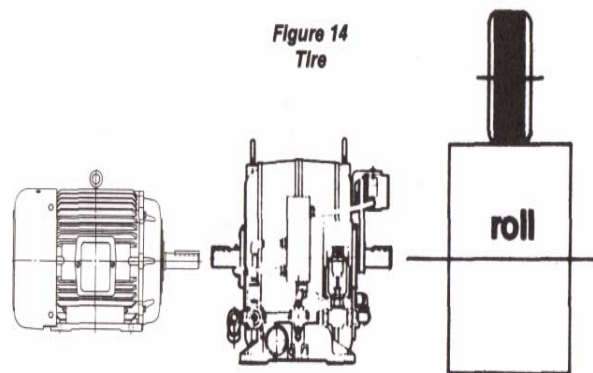
8. Wind Tunnel

Drive Type: Up To 300 HP, Eddy-Current.
Controller: Speed



9. Drive Test

Drive Type: 100 To 200 HP, Eddy-Current absorption brake or AF Dynamometer.
Controller: Speed With Torque Limit.



10. Accessory Tests

Drive Type: Up to 15 HP, Eddy-Current, Eddy-Current absorption brake or AF Dynamometer

Controller: Usually speed testing

Typical Accessory Testing:

a. Alternator	g. Fuel injection pump
b. Distributor	h. Viscous and friction clutch
c. Air-conditioning compressor	i. V-belt
d. Vacuum and air injection pump	j. Camshaft timing belt
e. Power steering pump	k. Starter motor
f. Turbocharger	

11. Complete Vehicle Test

Drive type: 75 HP Eddy-Current drive; 100 HP Eddy-Current brake absorber.

Controller: Speed Mutuatrol.®

A complete vehicle is placed on the stand with its drive wheels on a large roll. The engine throttle is positioned over a programmed time cycle and various performance and emission result recorded.

The Dynamic® name has been associated with various Motor/Engine testing applications for many years.

Some of our clientele include:

- The Ford Motor Company
- Rausch Racing
- General Motors
- Caterpillar

For further information or details on these and more engine testing applications, please contact one of our application specialists.

Application Engineering • Quality Products • Total Solution