Cablecraft Australia P/L

Presents the

PNEUMATIC CLUTCH BOOSTER
Booster Systems

- Booster systems are used in many applications
- They are used to boost output on:
  - Clutches
  - Brakes
  - Steering
Clutch Boosters

- Are used on heavy duty trucks and buses to reduce excessive clutch pedal loads and effort.
Pedal Effort

- High clutch pedal loads no longer need to be tolerated
- This is particularly true as more drivers are steeping into vehicles with 600 plus horsepower.
High Horsepower

- High Horsepower + large torque demand introduced into the clutch demands equally large clutches.

- Without a clutch booster, short throw pedals are impossible.
Integration

- With a clutch booster integrated into the system, light pedal force can be had with a short clutch pedal throw.
Performance

- This improves driver performance from a fatigue viewpoint as well as a quality of driving factor.
- Driving control of any vehicle whether it’s a sports car or road train is always improved when all controls are balanced.
Pneumatic Clutch Booster System

This system was introduced by the Cablecraft Motion Controls USA in 1994 and is designed to reduce the clutch pedal effort.
Pneumatic Clutch Booster System

- Main components are the Load Sensor Regulator and Booster Cylinder.

- All components are corrosion resistant.

- No lubrication or maintenance is required when the system is properly used for recommended applications.
Pneumatic Clutch Booster System

Operation

- The power booster is a pneumatic force sensitive linear servo device.

- Input / output force ratio is independent of stroke position and may varied to suit the application.

- Initial input force required to start magnification of the output force can also be specified.

- Various stroke lengths are available.
Pneumatic Clutch Booster System Operation

- The Booster cylinder receives controlled air from the Load Sensor Regulator.

- Separation of these two functions improves the design options when fitting system into new or existing vehicles.
What is reasonable pedal force?
Pedal Force

- The best way to answer that is to look at the forces required to operate the brake, throttle and clutch.

- Effort for all controls should be balanced without any function requiring noticeably greater effort than the other.
Why use a Booster System?

- Reduces operator fatigue
- Fail Safe
- Increases machine life and dependability
- Reduces manual loads on lever pedal
- Easy to install
- Can be used with cable or rod linkage clutch systems
Clutch Booster Application

Clutch installation with cylinder in Pull application

POWER BOOSTER 190-300-23X PARALLEL/REMOTE MOUNT CONFIGURATION

INPUT END

AIR INPUT

REGULATOR

AIR LINE

OUTPUT END

CABLE OR MECHANICAL LINKAGE

CYLINDER PULLS
Clutch Booster Application

Clutch installation with cylinder in **Push** application
Installation

- This shows the Load Sensor Regulator installed on a hard rod clutch linkage system.
Installation

- View of the Booster Cylinder fitted to the hard rod clutch linkage system.
- All pivotal points can be fitted with rod ends.
Installation

- Load Sensor Regulator installed on a clutch cable system
- The Booster Cylinder is mounted on the clutch lever arm.
Installation

- Clutch cable mounted system.
Accessories
Accessories

- We also supply various spherical rod ends, clevis assemblies and air fittings for ease of installation.
Complete Systems

- Pneumatic Clutch Booster systems are designed specifically for individual vehicle models.
- This product is presently being offered as an option or as standard equipment in an increasing number of Australian heavy duty vehicles.
- When used with the high quality cables produced by Cablecraft Australia P/L, the result will be a long life maintenance free control system which can be expected to increase the reputation and productivity of your equipment.
The future of engineering design in heavy duty vehicles is clear.

Controls will continue to improve in ergonomics, maintainability and reliability.

Specify the Pneumatic Clutch Booster from Cablecraft Australia P/L.
Thank you.

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