



Kyntronics SMART Hydraulic Actuator (SHA) for Assembly Press

Application:

Driveshaft
Vibration
Damper
Insertion
Assembly
Press

Product:
S-Model
120 Series



Solution:

The Kyntronics SMART Hydraulic Actuator model # SHA S13C20-31 with 40-inch stroke was selected based on force and speed requirements. The solution was an all-in-one system with servo motor, drive, and actuator that was drop in ready.

In addition, the unit was provided with an internal feedback device to provide accurate positioning without possible interference when pressing into long drive shafts.

Challenge:

Tier 1 automotive supplier in Michigan was experiencing performance issues and premature failure/short life with their existing Electro-Mechanical – Roller Screw type actuator solution. The repeated load cycle was causing accelerated localized wear of the roller screw. In addition, the variation in friction between damper and driveshaft tube components was causing force spikes and shock loads further damaging the roller screw actuators.

To replace the existing Roller Screw type actuator, the supplier would need high force and precision control in a compact space envelope. A traditional hydraulic cylinder system approach and a larger electro-mechanical actuator were considered to replace the system. However, the hydraulic system occupied too much floor space and did not provide accurate control. The larger electro-mechanical actuators grew in footprint considerably and cost was prohibitive.



The Kyntronics SHA provided the high force required in a compact space envelope. The SHA combines the power of hydraulics with the precision of servo control resulting in a more-reliable solution for this customer while providing the position and force accuracy for repeatable quality from this assembly process.

The SHA will provide long, maintenance-free operation as the SHA is a closed system with no hoses/no leaks and robust seals (tested at over 60 million inches of travel).

Find out more about the advantages of SMART Hydraulic Actuators compared with hydraulic cylinder actuators or ball screw / roller screw actuators.

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