

# TECHNICAL GUIDE

**HARROP**  
FDFI SUPERCHARGER



## OVERVIEW

Designed and manufactured in Australia by Harrop to OE standards specifically for HSV E Series and VE Commodores and LS3/LS7 port shape GM engines, utilising the same Eaton TVS™ supercharger technology as featured on the ZR1 Corvette and the ZL1 Camaro.

Simplified drive system with higher mechanical efficiency combined with top down supercharger orientation provides direct airflow path and engine bay prominence. Installation is of OE appearance and fitment developed from designing and supplying multiple OEM customer supercharger programs

Two years of R&D has delivered the most efficient supercharger on the market for the late model GM LS engine family, providing the ultimate in quality and performance.

## FEATURES

### FRONT DRIVE FRONT INLET (FDFI) SUPERCHARGER

- Supercharger driven directly from engine crankshaft
- More efficient operation due to unique Harrop supercharger housing and improved manifold design

### INTERCOOLING

- 2-pass, rear connection, high efficiency intercooler cores
- High volume intercooler pump with a dedicated electrical circuit
- OE style intercooler reservoir and hidden windscreen washer reservoir utilising OE filler neck

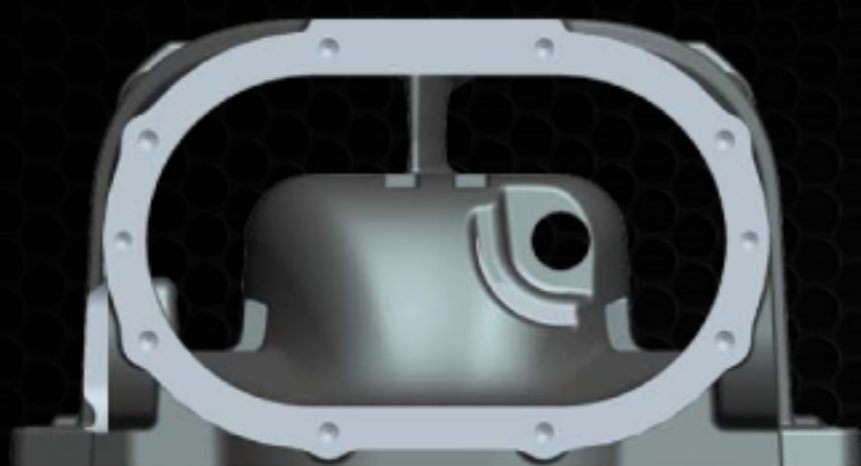
### COMPLETE INSTALLATION KIT

- Neatly connects to OE air-box, using OE ETC, MAF and IAT sensors. 2-Bar MAP sensor is optional
- Optional engine cover/fascia panel kit



HARROP FDFI Supercharger Manifold





## HARROP FDFI 2300 SUPERCHARGER

The inlet of the FDFI supercharger housing is **60% larger** compared to the previous generation of Harrop superchargers, the RDFI (Rear Drive Front Inlet). Although some of the space inside the inlet is given up to the drive shaft, overall airflow through the supercharger isn't compromised.

The manifold has been designed to enable optimum charge air flow and cooling with low noise, by way of a more rigid casting, which generates less resonance, while maintaining the characteristic supercharger sound. The direct drive of the FDFI supercharger layout has an inherently higher mechanical efficiency compared to the transfer shaft arrangement, reducing drive noise, increasing belt life and diminishing the occurrence of belt slip.

Intercooling effectiveness is maximised due to a new 2-pass design incorporating fine fin pitch, more tubes per core and high flow intercooler pump. The pump has a dedicated, fused loom that connects to the battery +12V, to avoid putting higher current load on the OE harness. All of the water hose connections and lines are now Ø15.0mm and are located at the back of the manifold out of sight. The windscreen washer reservoir is located out of sight on the LHS chassis rail, and accepts the OE filler tube.

## GENERAL DATA

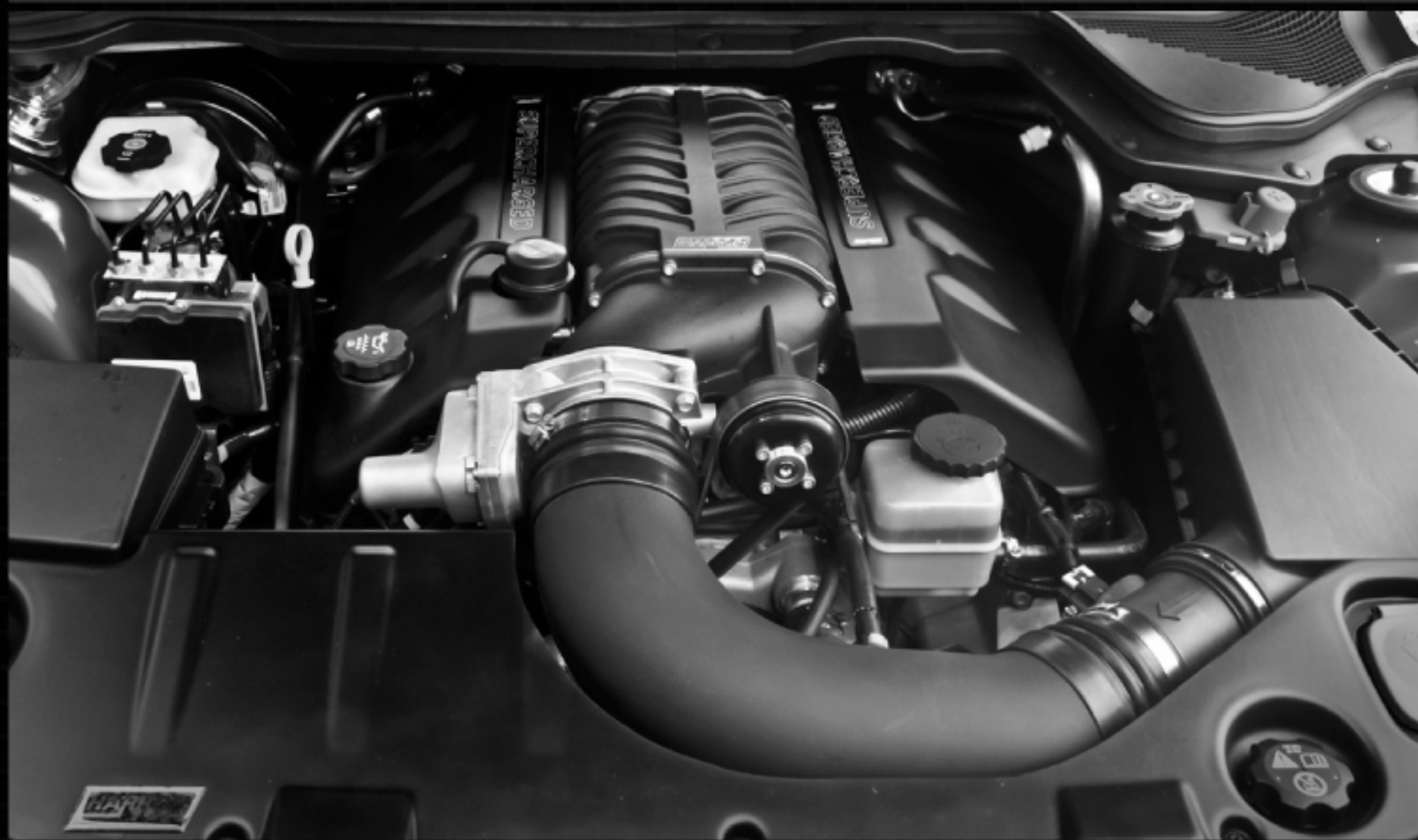
- Pulley wrap angle: 207° with Ø85.0 pulley
- Pressure ratio capability: up to 2.4 for both 1900 and 2300 units
- Drive pulley diameter:
  - HTV 1900 kits - 85.0mm, (80.0 & 75.0 6PK are available)
  - HTV 2300 kits - 85.0mm, (80.0 & 75.0 6PK are available)
- 8PK pulley kit in development
- Note that any pulley combination that drives the supercharger above 18,000 RPM will void the warranty (ie less than Ø75.0 pulley sizes)
- Compatible with LS3 water pump only



LS3 water pump, with water outlet on left hand side of engine.



## HARROP FDFI SUPERCHARGER KIT INSTALLED WITH OPTIONAL COVER KIT



## BASE SUPERCHARGER INSTALLATION KIT



*OPTIONAL:* Engine cover kit (includes: HTV Engine Covers & Fascia Panel)

## VEHICLE APPLICATION GUIDE

## HSV E Series and VE Commodore

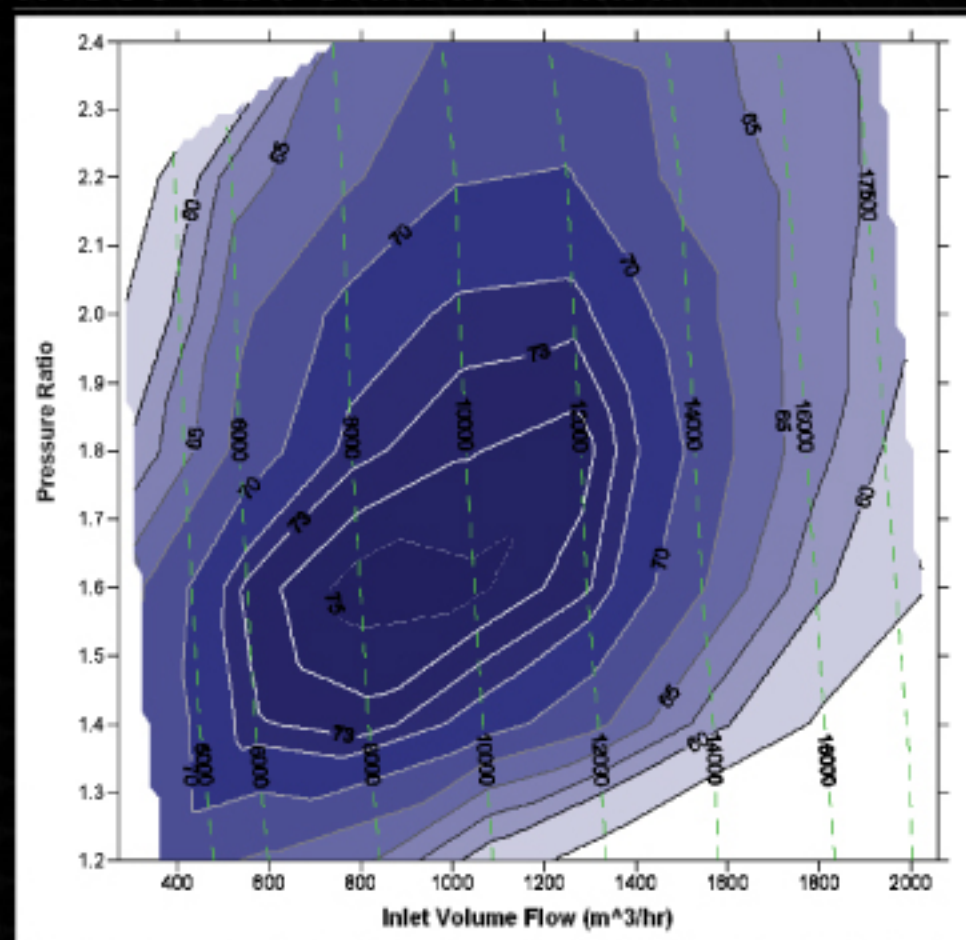
- All VE V8 variants with LS3 or LS7 port shape
- FDFI HTV1900 and FDFI HTV2300 Vehicle Kits available

## GM Performance LS7 Engine

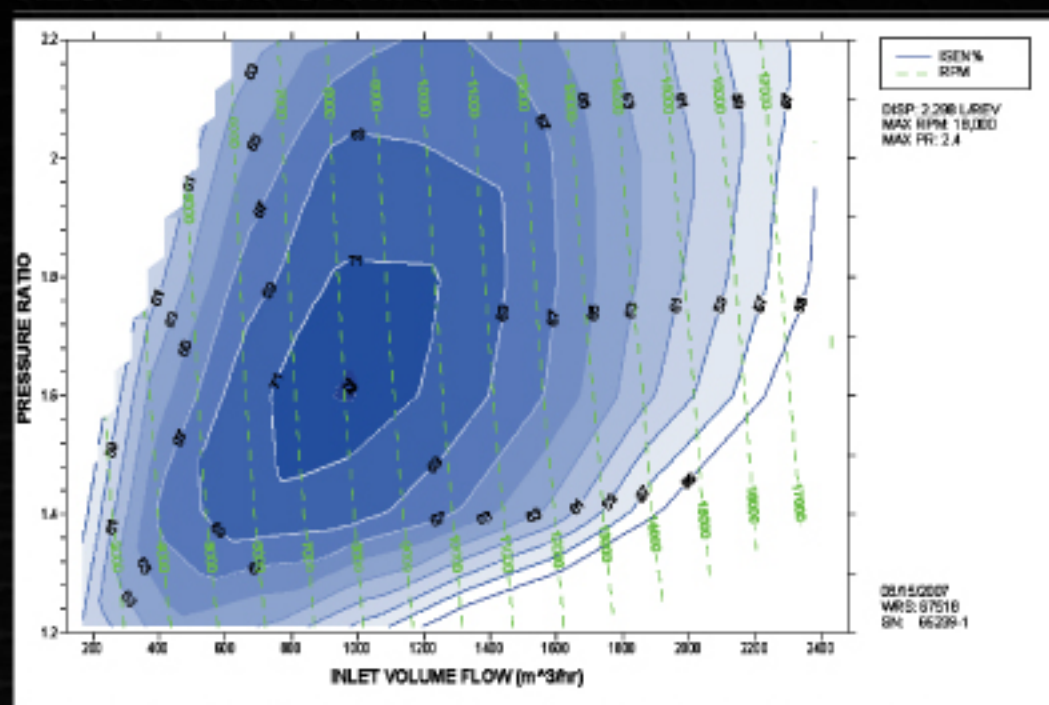
- Manifold kit only, as illustrated on page 1



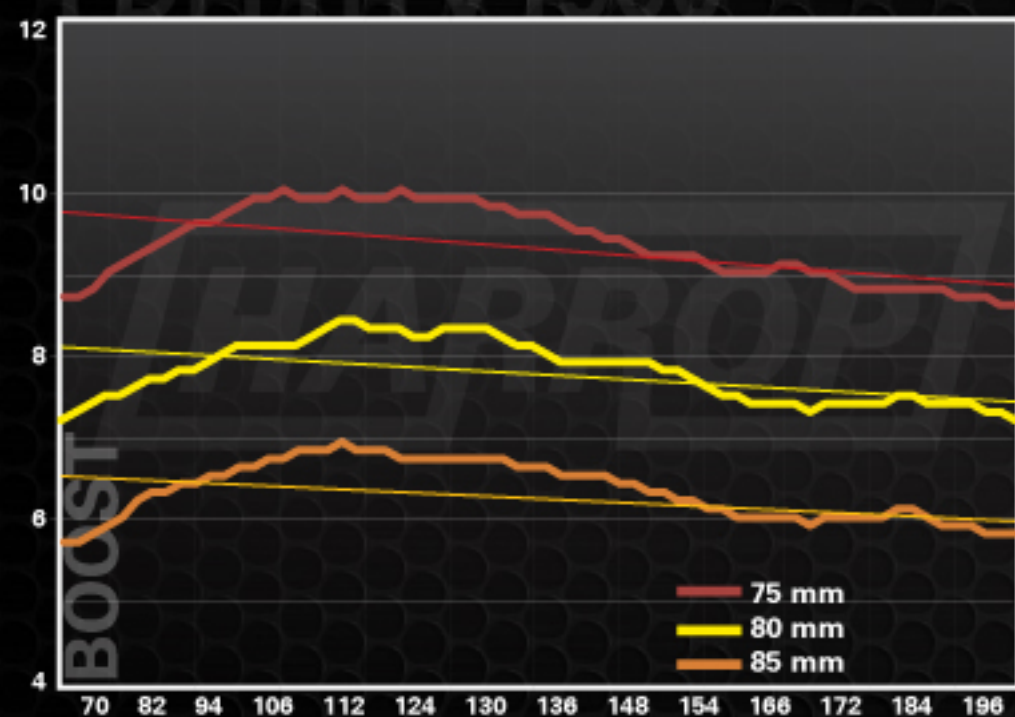
## R1900 PERFORMANCE MAP



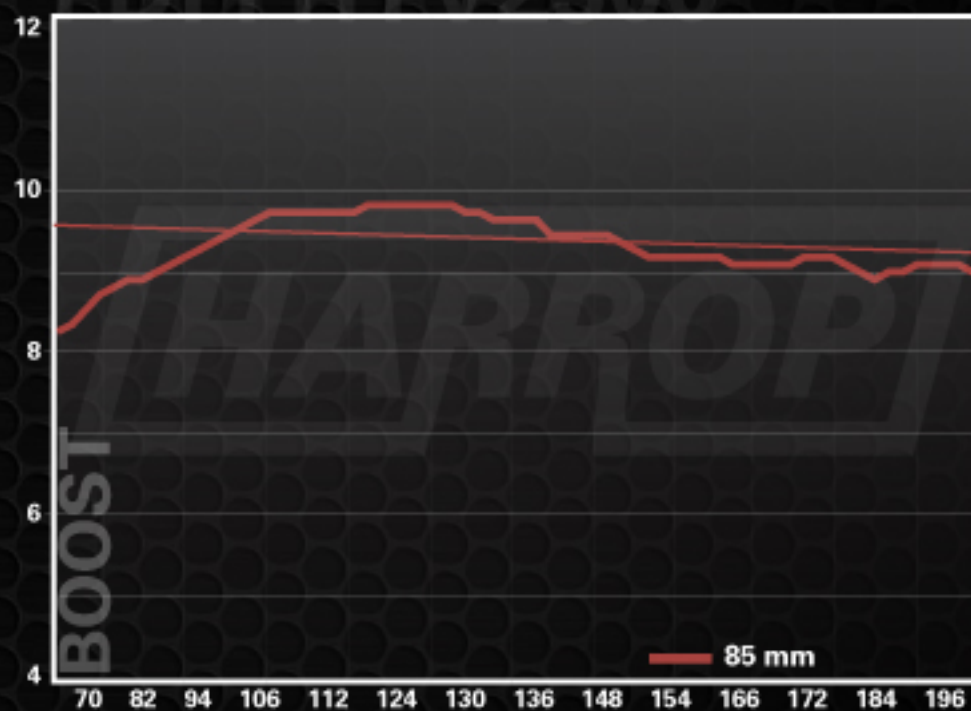
## R2300 PERFORMANCE MAP



## FDFI HTV1900 75/80/85MM PULLEY BOOST



## FDFI HTV2300 85MM PULLEY BOOST GRAPH



## FDFI HTV1900 BOOST AVERAGE

	PSI	Kpa
85mm	6.41	146.54
80mm	7.78	155.98
75mm	9.24	166.03

## FDFI HTV2300 BOOST AVERAGE

	PSI	Kpa
85mm	9.33	166.65

\*data acquired on a standard LS3 engine equipped vehicle with standard airbox and filter

## FOR MORE INFORMATION CONTACT HARROP

96 Bell St, Preston, VIC 3072 Australia

T : +61 3 9474 0900 / 1300-HARROP

F : +61 3 9474 0999

W : [www.harrop.com.au](http://www.harrop.com.au)

E : [sales@harrop.com.au](mailto:sales@harrop.com.au)