

# Tech Guide

## RAM 1500 HEMI 5.7L Supercharger Kit



### Harrop Supercharger kit – RAM HEMI 5.7L V8 (RAM 1500 EXPRESS, LARAMIE)



2009-2023 RAM 1500 DS Model (USA, UAE, AUS)



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### Harrop Supercharger kit – RAM HEMI 5.7L V8

Harrop engineering develops and manufactures premium supercharger kits in Melbourne, Australia. Through 60 years of automotive performance Engineering, Harrop Engineering have successfully manufactured and supplied Superchargers to Automotive OEM programmes including TRD, Lotus Cars and Ford Australia.

Harrop Engineering is certified to meet ISO 9001 standards of quality. OEM Quality, performance and vehicle integration are the foundation of Harrop Supercharger kits.

#### Overview:

Harrop TVS2650 FDFI Supercharger Tuner Kit for RAM HEMI 5.7L V8 engines.

Note that this is a Tuner kit; a full kit will be available once an Executive Order (EO) number from CARB has been obtained.

This kit has passed the Australian IM240 Gaseous emission test.

Tuner kit includes all components required for installation into RAM 1500 trucks with 5.7L V8 Engines.

- Supercharger intake manifold
- Harrop TVS2650 FDFI Supercharger with RH inlet cover – RAM Throttle bolt pattern
- 6PK FEAD idler bracket, 6PK Supercharger drive belt
- Replacement high flow injectors – Bosch 650cc
- Plug-in wiring looms for all necessary engine sensors – IAT breakout from MAF sensor, Throttle loom extension and Intercooler pump loom
- Front-mount intercooler radiator, Electric Intercooler pump, Coolant Reservoir and moulded hoses
- PCV system including catch can.
- Interfaces with OE throttle body, FEAD and Air-box.
- Retains all factory ancillaries including A/C, Viscous engine fan, Power Steering, etc.
- Detailed installation instructions.
- The average installation time for an experienced installer is 5-6 hours.

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### Technical specifications:

- Eaton TVS2650 supercharger technology. The TVS2650 supercharger is 11% larger than the 2380cc Supercharger used on the SRT HellCat 6.2L engine. (2650cc vs 2380cc).
- Integrated Supercharger Bypass system which relieves boost under light load conditions, reducing drive loss and improving fuel economy.
- High density water to air intercooler system:
  - Front mount heat exchanger: Close pitch core matrix at 28mm thick. Overall size is 539x420mm
  - In-manifold intercooler: Close pitch dual pass core with high density fin at 55mm thick
- kit Includes Ø100mm Supercharger pulley – 6PK.
- Minimum 98-RON (93-AKI) fuel must be used.
- Re-calibration of the ECU is required.
- eTorque mild hybrid engines are not compatible.

Supercharger Pulley Ø	Harrop part number	Supercharger Belt
100	99-PLY14565	6PK2490

### Performance:

Over 25% gain in Engine Power and Torque are achievable with 5-PSI boost while maintaining the OE RPM limit, depending on Calibration and other modifications such as Exhaust system and Airbox/snorkel.

The Harrop TVS2650 Supercharger is capable of producing over 1000 hp with further supporting modifications including suitable intake and throttle, Supercharger drive, built engine, exhaust and custom calibration.

Note: Please note that all performance results – unless stated otherwise - are measured on Harrop Engineering's in-house Hub Dynamometer. Results may vary depending on vehicle type, condition and performance upgrade. All dynamometers are different and cannot be compared.

RAM 1500 EXPRESS			
Harrop TVS2650			
Boost	Pulley Ø mm	Wheel Power kW (hp)	Wheel Torque Nm (lbf-ft)
5 PSI*	100	335(450)	620(458)
0 (STOCK)	-	230(308)	430(317)

\*Boost pressure can vary 1.0-1.5 PSI depending on ambient conditions and other modifications

Watch Supercharged RAM 1500 on the Harrop Hub Dyno: <https://youtu.be/WpyKIZbzUjM>

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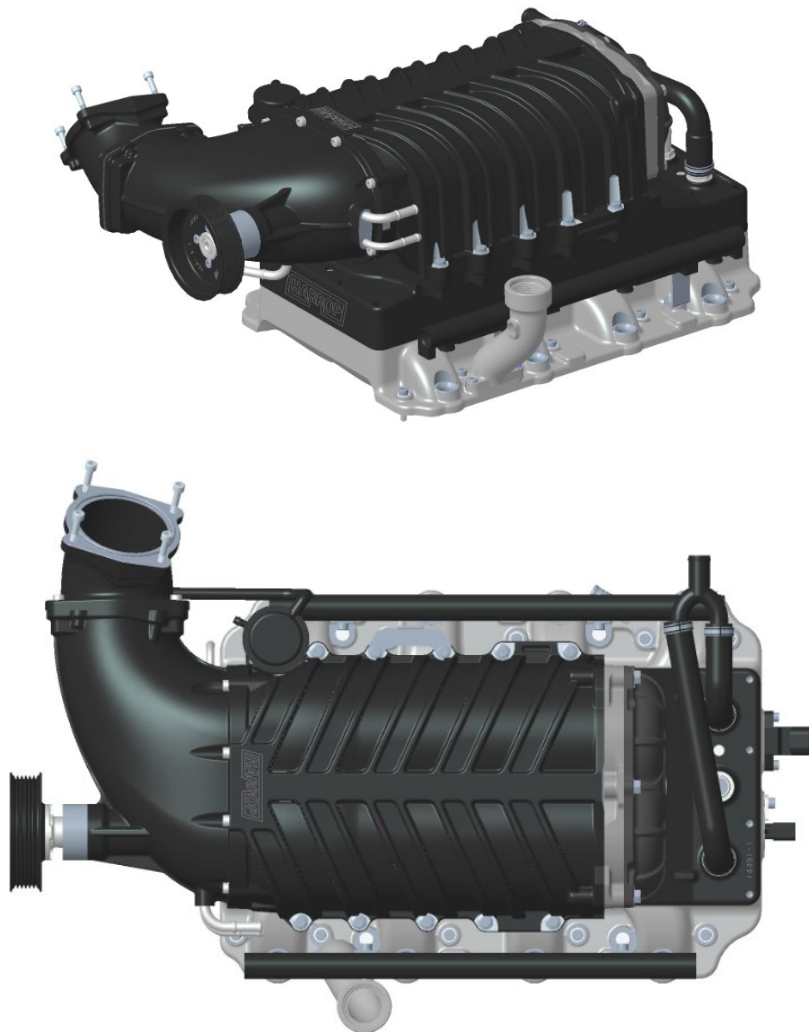
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Variants:

Harrop Part Number	Harrop Supercharger kit – RAM HEMI 5.7L V8
99-KSM55K36	FDI2650 Supercharger kit – RAM 1500



Harrop TVS2650 HEMI 5.7L Supercharger Manifold Assembly

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### Calibration of RAM HEMI 5.7L V8 Engine ECU for Harrop Supercharged engines

Before commencing installation, the following process must be completed in order to gain access to the ECU:

1. Install a smart access cable to the vehicle, available at:  
<https://www.hptuners.com/product/dodge-2018-smart-access-cable/>
2. Read and save the original file from the ECU using HP Tuners software
3. Send the Vehicle's ECU to HP Tuners for modification. Refer to:  
<https://www.hptuners.com/product/pcm-modification-service/>
4. Once the ECU has been modified and returned, re-install it to the vehicle and commence the Supercharger installation.