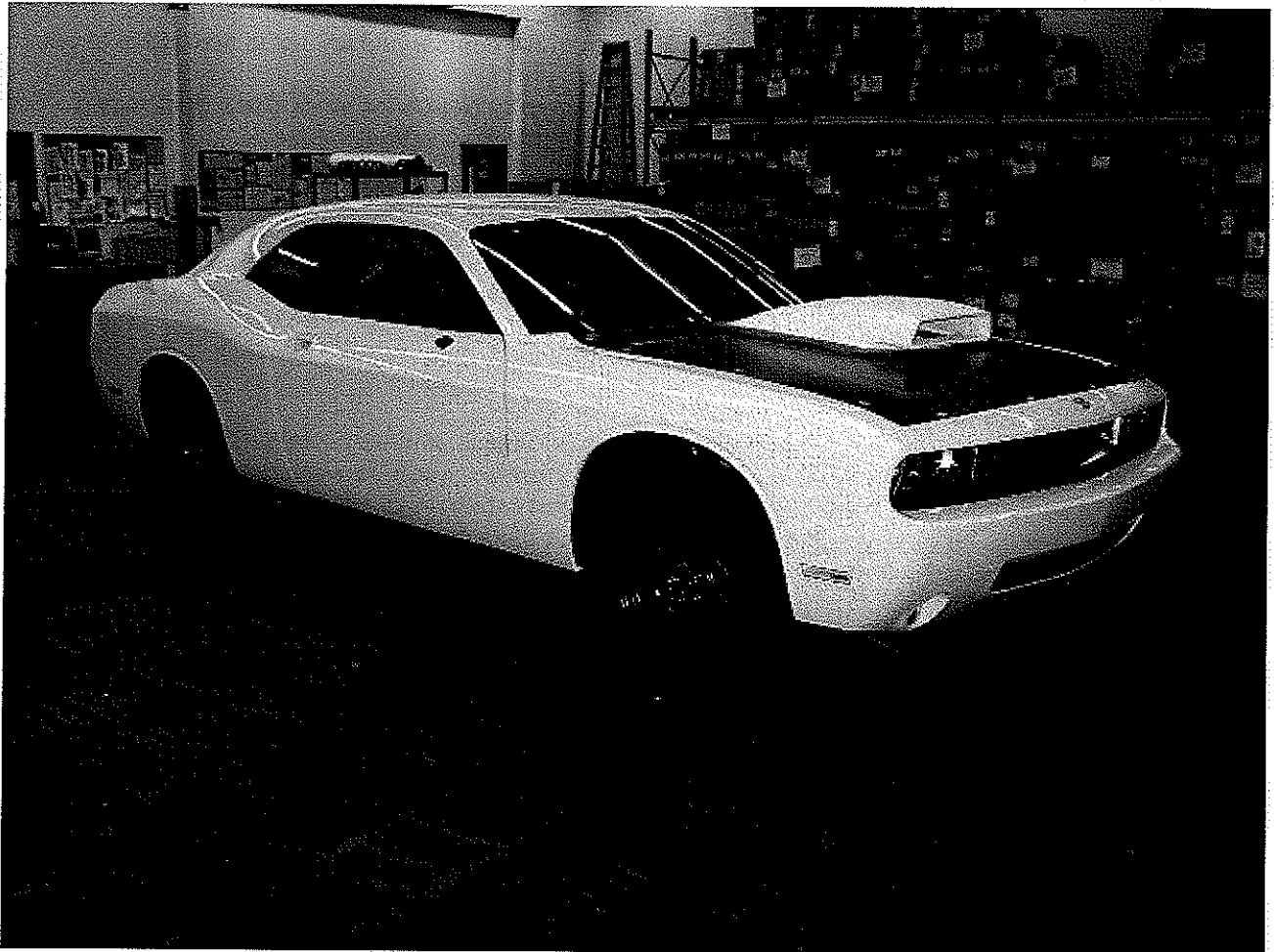




LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX





LC22R Challenger Drag Pak

Part Number: P5155647, P5155648

6.1ATX 6.1MTX

READ ALL INSTRUCTIONS BEFORE ATTEMPTING TO COMPLETE YOUR DRAG PAK CAR

Mopar shall have the right to change the design of or specifications for any part sold under this program, and shall have no obligation to provide notice of the same to the applicant/purchaser or make any similar change to any part previously purchased by or delivered to purchaser.

The Dodge Challenger Drag Pak is the first drag-race, factory prepped package car built in over 40 years by Mopar and builds on the heritage of the limited edition 1968 HEMI powered Dodge Darts and Plymouth Barracudas. Package cars are not sold as a running driving vehicle, and are not supplied with a VIN number and are not to be titled or street driven.

The Drag Pak was developed by Mopar Performance and approved by NHRA for stock class drag racing. For exact details on how the vehicle should be configured, please refer to your sanctioning body rulebook.

Mopar Performance recommends professional assembly of this vehicle by a qualified performance shop. At minimum: vehicle hoist, torque wrenches, welding equipment, specialized removal and installation tools, are required. Vehicle service manuals for the 2009 Dodge Challenger are available in a PDF format via: techauthority.com and may be helpful during the completion of your Drag Pak. Refer to vehicle lifting information, and the front of each section in the service manual for specific instructions and warnings.

NO PARTS WARRANTY- "AS IS"

Mopar Performance parts beginning with a "P" prefix are sold "as is" unless otherwise noted. This means that parts sold by Mopar Performance carry no warranty whatsoever. **Implied warranties, such as warranties of merchantability, are excluded.** (An implied warranty of merchantability means that the part is reasonably fit for the general purpose for which it was sold). The entire risk as to quality and performance of such parts is with the buyer. Should such parts prove defective following their purchase, the buyer and not the manufacturer, distributor or retailer, assumes the entire cost of all necessary servicing or repair. Chrysler, Dodge, and Jeep vehicle and parts warranties are voided if the vehicle or parts are used for competition. The addition of performance parts does not by itself void a vehicle's warranty. However, added performance parts (parts not originally supplied on the vehicle from the factory) are not covered by the vehicle's warranty, and any failure that they may cause is also not covered by the vehicle's warranty.

NOTICE: READ THIS SECTION BEFORE LOADING AND TRANSPORTING!

- Do not attempt to flat tow this vehicle under any circumstances.
- Enclosed trailer required, windows are in the lowered position upon delivery.
- Front / rear glass is spot glued so that they can be easily removed for roll bar installation. Glue locations are indicated by labels on the glass.
- Vehicle does not have operable brake system: i.e. there are no brakes
- Hood is not secured to the body. Quick release fasteners (Dzus style) are not riveted to the hood to so that the hood can be painted.
- All four wheels supplied with the car are a 5 x 4.5" pattern.

NOTICE: Mopar Performance assumes no responsibility for transportation damage.

For technical assistance regarding this product, please contact the Direct Connection Tech Line Monday-Friday, 9:00 A.M.– 5:00 P.M. EST at 1(888) 528-HEMI or 1(888) 524-4364

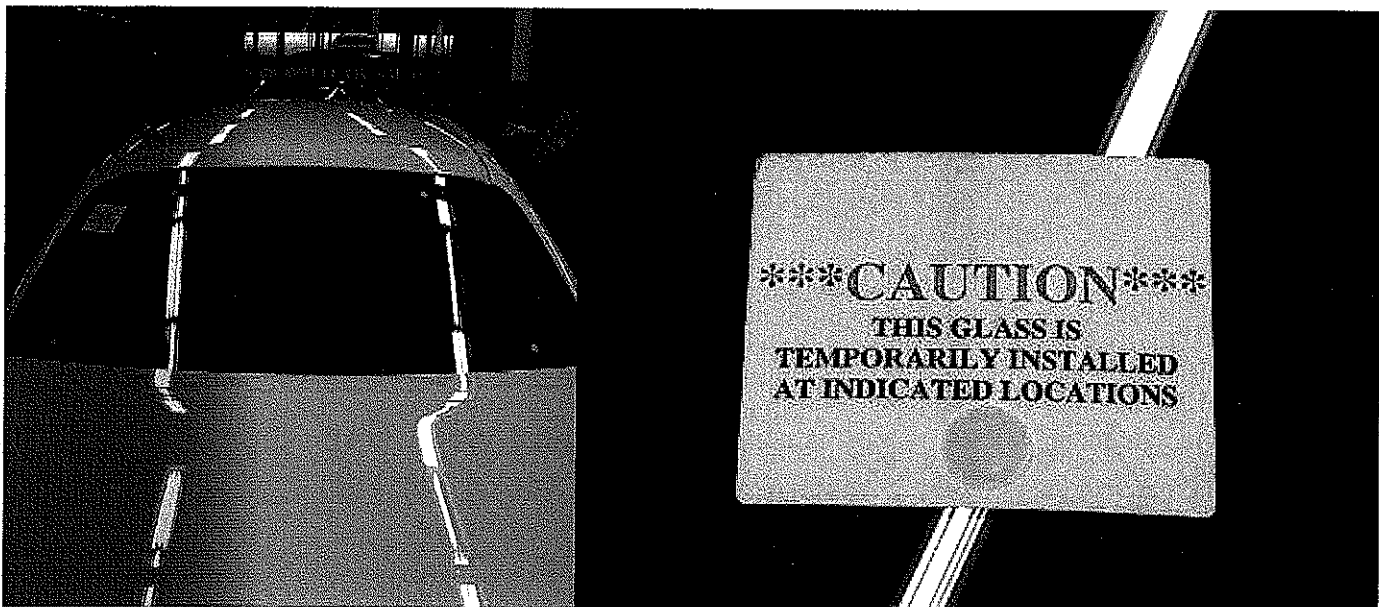
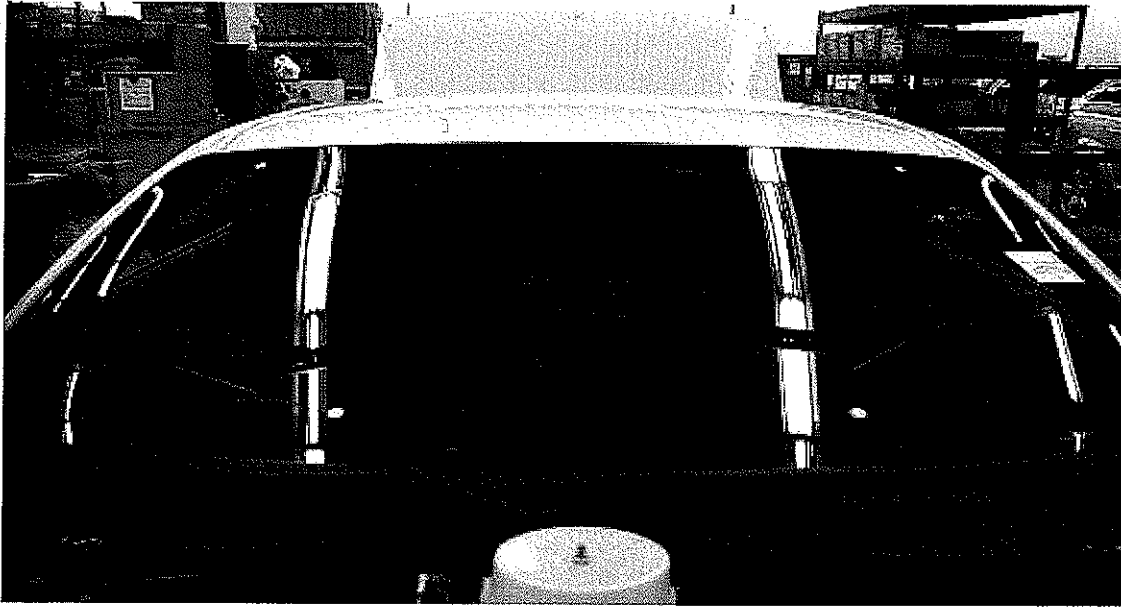


LC22R Challenger Drag Pak

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-Transporting the vehicle

The front and rear glass on the Drag Pak Kit is spot glued in 4 places for ease of glass removal when installing the roll cage. The points that are spot glued are marked with a yellow dot. Due to the glass only being spot glued, an enclosed trailer must be used when transporting the vehicle from the pick up location.





LC22R Challenger Drag Pak

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-Wheels and Hubs

The wheels are used for delivery only and the vehicle is **NOT** to be flat towed or driven on the steel delivery wheels.

-The Front and rear hubs are standard 5 x 4.5" pattern, with a standard thread pitch

General information

-Vehicle Identification / VIN

-Vehicle has no VIN number and **cannot** be titled or driven on public roads. Vehicles are serial numbered, the first four digits are the year the vehicle was produced, and the last three are the sequence it was built in. The VIN tag is located on the passenger side strut tower in the engine compartment.



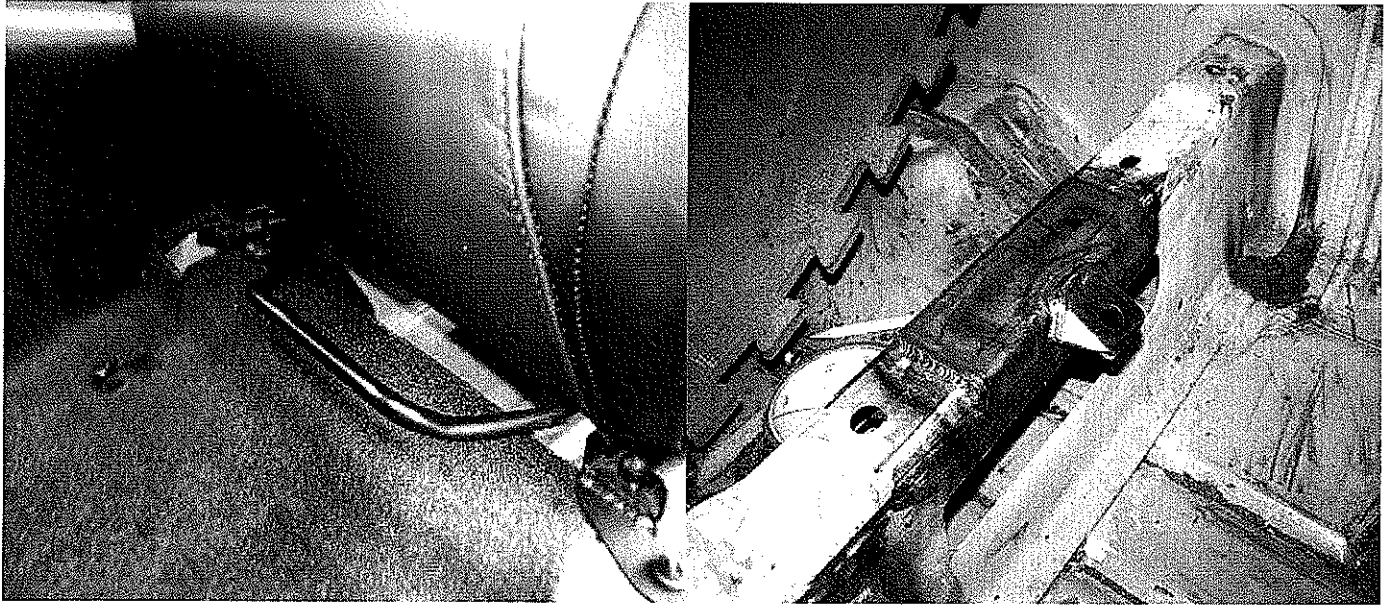


LC22R Challenger Drag Pak

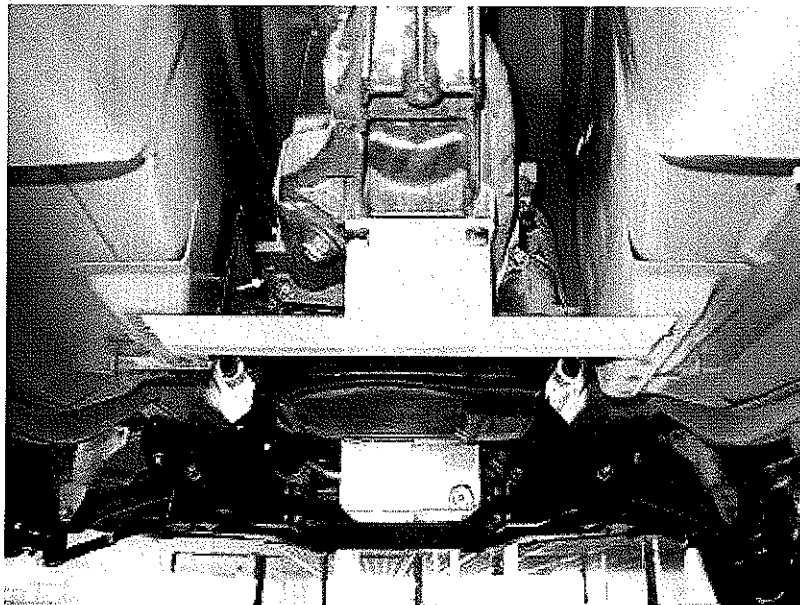
Part Number: P5155647, P5155648
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-Chassis

-Seats are fastened only by front mounting bolts to allow fabrication of frame ties/roll cage. The rear seat mounting point should be determined during the installation of the roll cage. The following photos show the front mounts and a suggested rear mounting point. Please refer to your sanctioning body for exact rules covering roll cage installation.



-Rear transmission cross member is not to be used for competition, and is intended for shipping purposes only. The cross member is painted yellow for identification purposes.





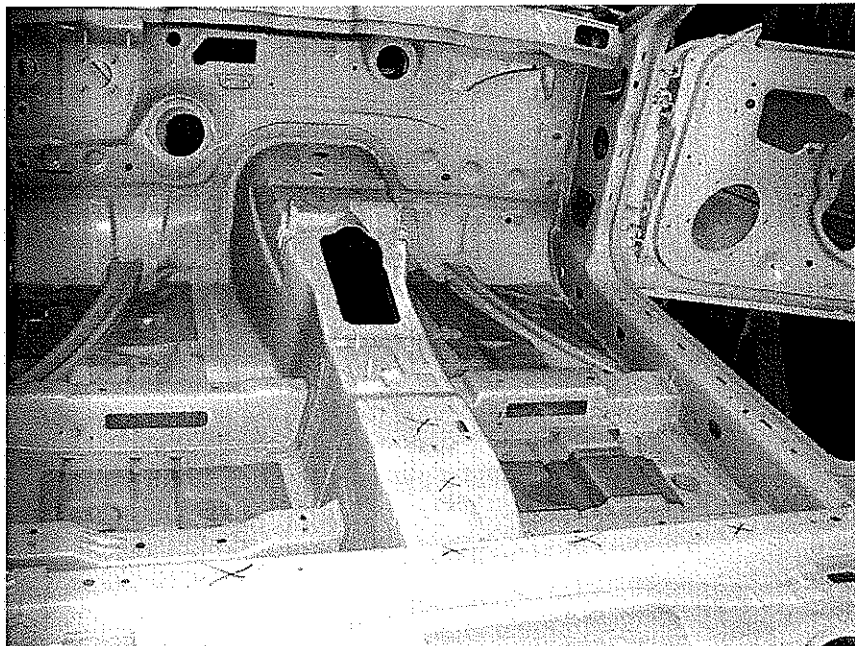
LC22R Challenger Drag Pak

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-The trunk area must be closed off from the passenger compartment for competition, but has been intentionally left open for roll cage fabrication. The rear axle floor pan cover is held in place with rivets for ease of roll cage fabrication. See NHRA rulebook or your sanctioning body's guidelines.



-Front cowl/bulkhead is intentionally left unsealed for wiring harness pass through.



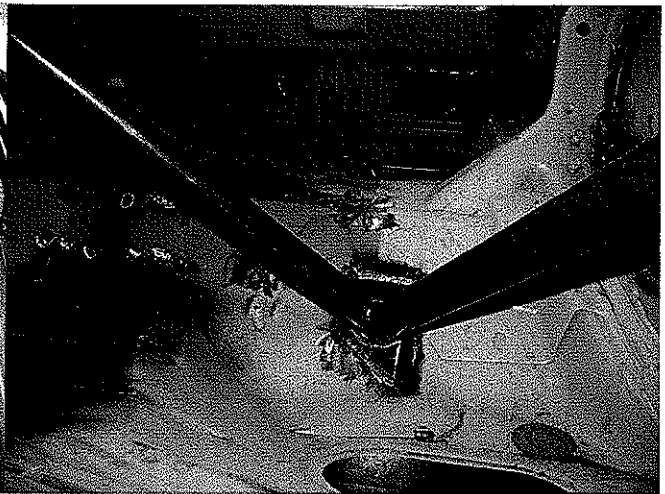
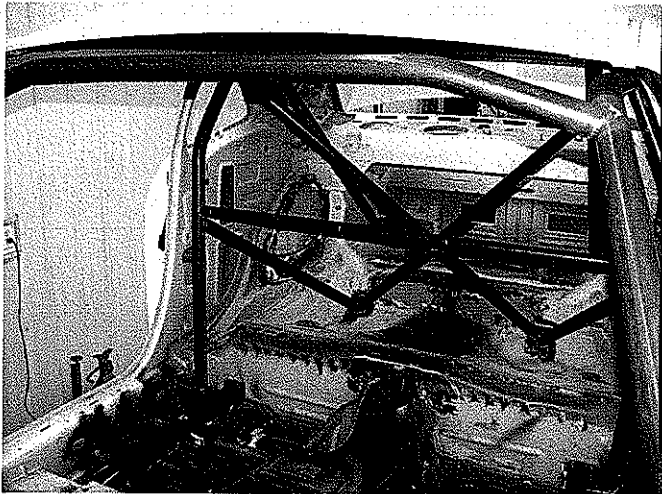
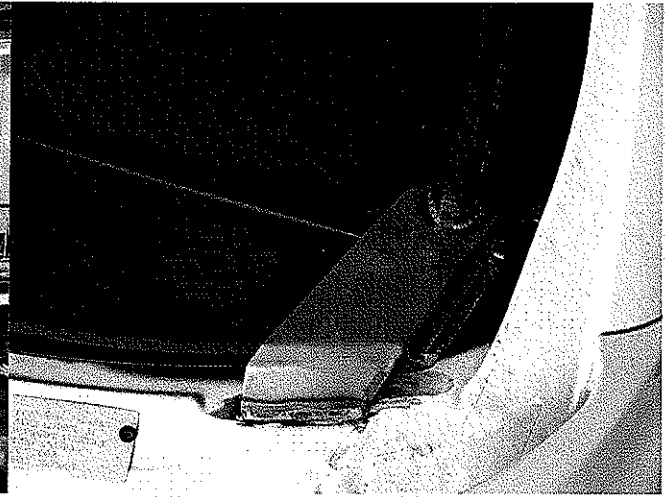
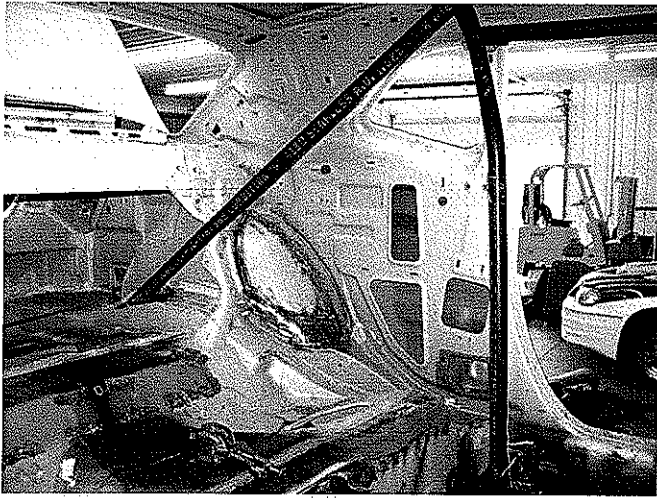


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-The sanctioning body rule book will outline roll cage parameters, but here are a few suggested attaching points.

Note: The plate on the dashboard is for cosmetic purposes only.



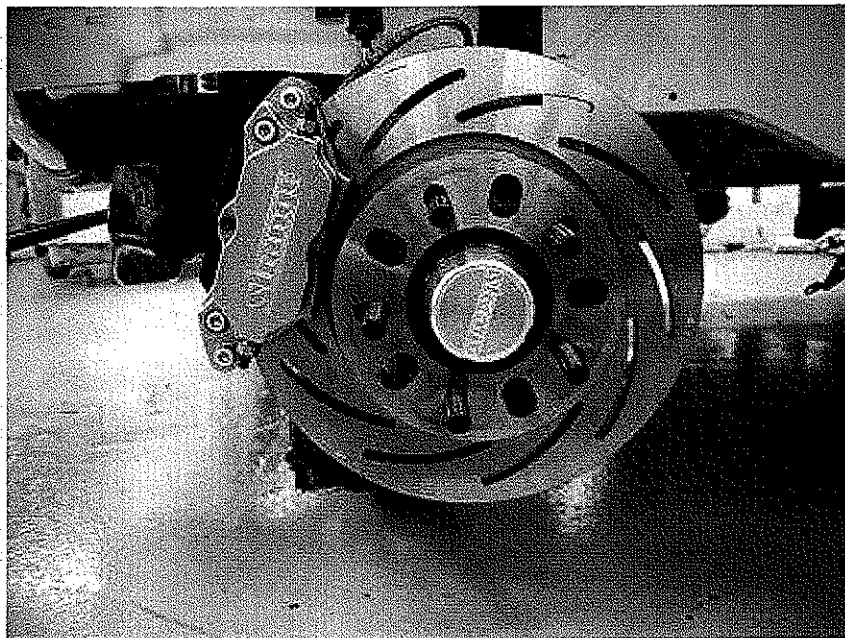
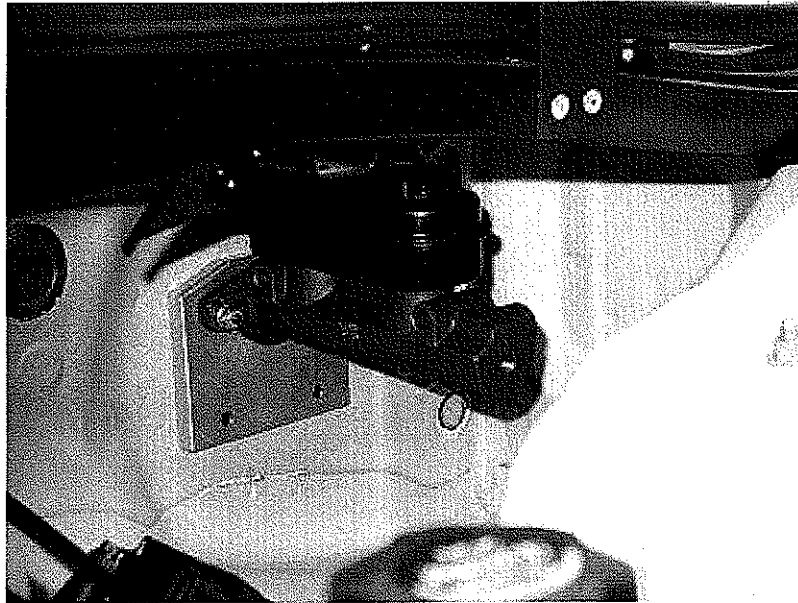


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-Brakes

The brake system will need to be plumbed front to rear. Mopar Performance has supplied a master cylinder and race front brake caliper and rotor combination. The pedal assembly and pushrod have been modified to fit the master cylinder.

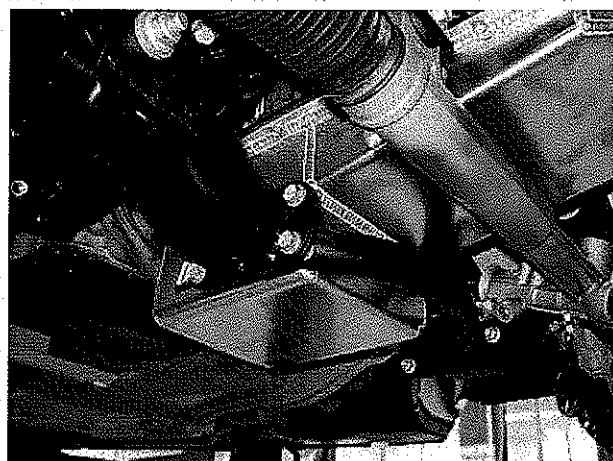
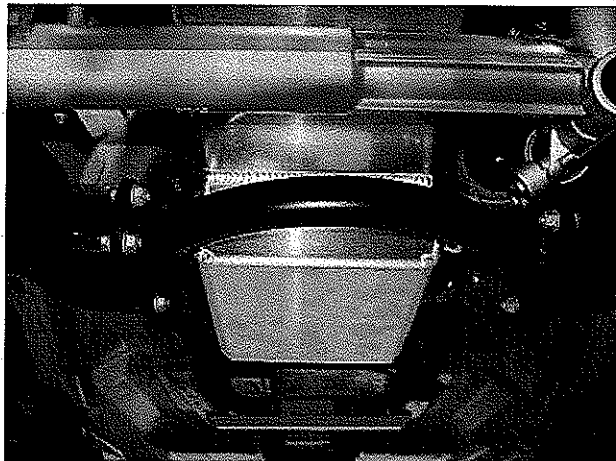
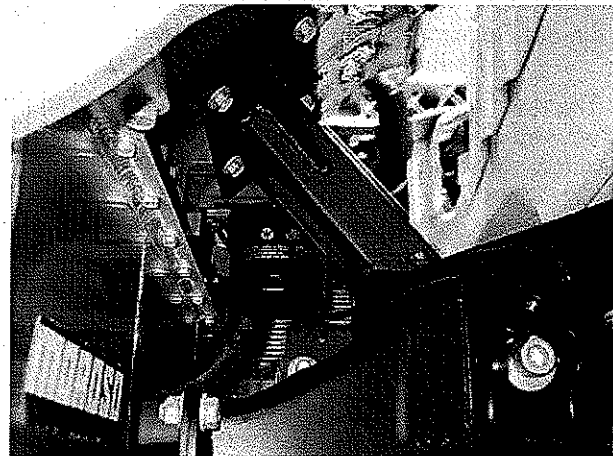
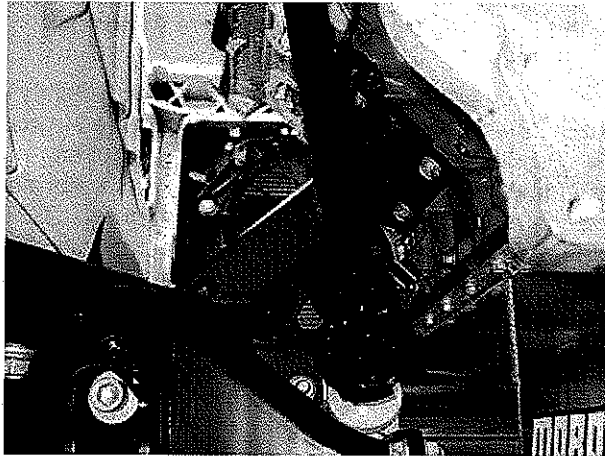




LC22R Challenger Drag Pak

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The engine mounts are solid, and the K-frame has been modified to accommodate the rear sump race oil pan.



-Rear Axle

The Dodge Challenger is equipped with a fabricated (transport only) axle assembly. Mopar Performance suggests the fabricated axle be discarded, and replaced with a link/coil over suspension and solid axle. NHRA specifications are provided in the back of the manual



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-Wiring

Production Challenger wiring harnesses have been provided so that connectors, boots, and wires can be harvested. A wiring and pin-out diagram is included to show how the development Challenger package cars were wired.

-Windows: The door windows require a "smart glass" controller. (Smart glass lowers and raises the glass slightly when the door is opened or closed). Unique "smart glass" control modules have already been installed and wired in each door. In order for the windows to operate, you will need to wire the power, ground, and 2 communication wires. The communication wires are connected from the left door module to the right door module and allow the driver door switch to control the passenger door window. The communication wires are referred to as "CAN Bus" in the diagram. CAN bus wires are a twisted pair. A twisted pair of wires can be made with hand drill or a twisted pair of wires can be harvested from the supplied vehicle harness. See the DOOR CONNECTOR (body side) diagram for the pin-out information. CAN BUS (+) of the left door must be connected to CAN BUS (+) of the right door. CAN BUS (-) of the left door must be connected to CAN BUS (-) of the right door.

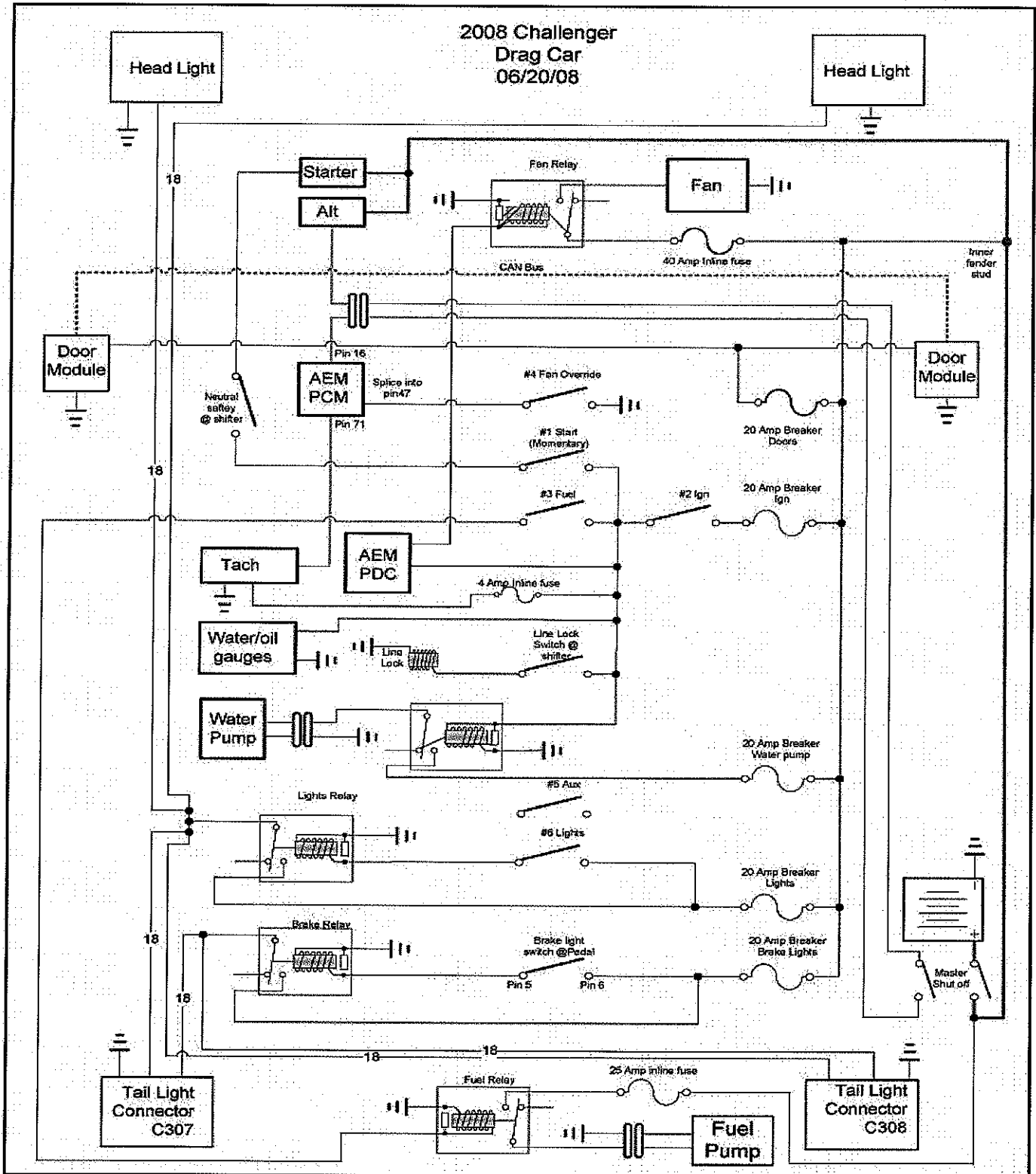
-EFI: Mopar P5153528 controller, and Mopar P5153530AB harness can be used to control a 5.7L or 6.1L package car engine. 5.9L engines will require a separate after market EFI system (such as FAST, ACCEL, BIG STUFF, etc). The included diagram is for the Mopar EFI system, but it can be adapted to the EFI system of your choice. The P5153530AB harness was designed for a production intake manifold and will require modification for use with the tall manifold and 4 barrel throttle body. The TPS connector will need to be lengthened and switched to a Delphi connector (Delphi TPS connectors were used on many GM vehicles and are available at local auto parts stores). MAP and IAC will need to be lengthened.





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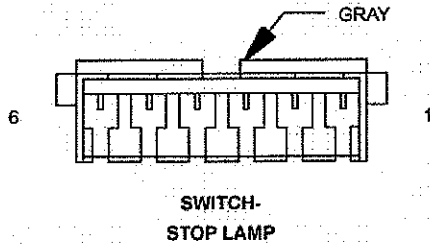




LC22R Challenger Drag Pak

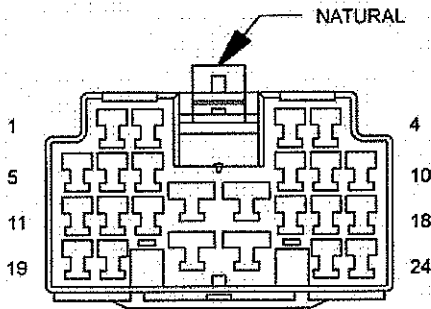
Part Number: P5155647, P5155648
6.1ATX 6.1MTX

2008 Challenger Drag Car Connector Pinout



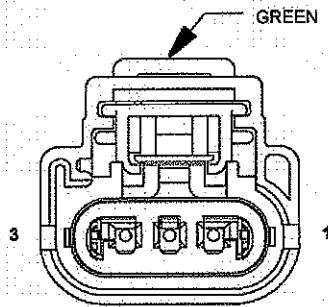
BRAKE SWITCH

Cavity	Circuit	Function
5	20DG/WT	BRK LAMP
6	20PK/DB	FUSED B(+)



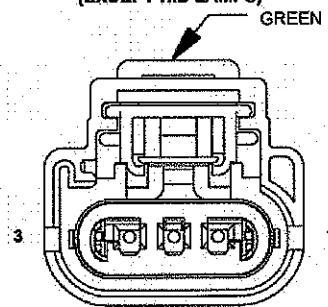
DOOR CONNECTOR (BODY SIDE)

Cavity	Circuit	Function
9	20WT/OR	CAN BUS (+)
10	20WT	CAN BUS (-)
14	14BK/OR	GROUND
22	14RD	FUSED B(+)



HEADLAMP LEFT

Cavity	Circuit	Function
1	18WT/DB	LOW BEAM
2	18BK/LB	GROUND



HEADLAMP RIGHT

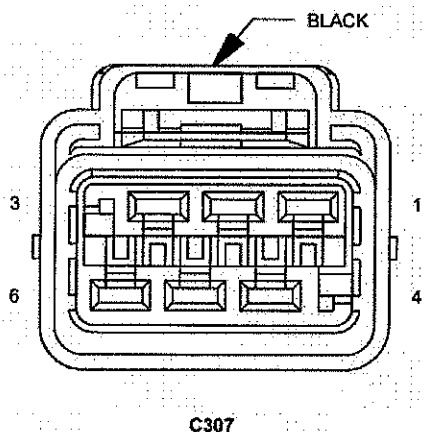
Cavity	Circuit	Function
1	18WT/TN	LOW BEAM
2	18BK/DG	GROUND



LC22R Challenger Drag Pak

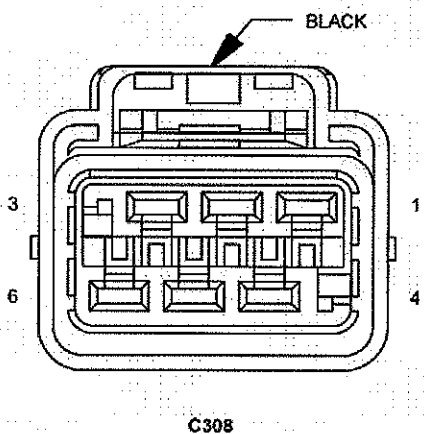
Part Number: P5155647, P5155648
6.1ATX 6.1MTX

2008 Challenger Drag Car Connector Pinout



TAIL LIGHT LEFT C307

Cavity	Circuit	Function
1	16WT/VT	RUN LIGHT
2	20BK/GY	GROUND
3	16WT/DG	BRAKE



TAIL LIGHT RIGHT C308

Cavity	Circuit	Function
1	16WT/VT	RUN LIGHT
2	20BK/GY	GROUND
3	16WT/YL	BRAKE



LC22R Challenger Drag Pak

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6.1ATX 6.1MTX

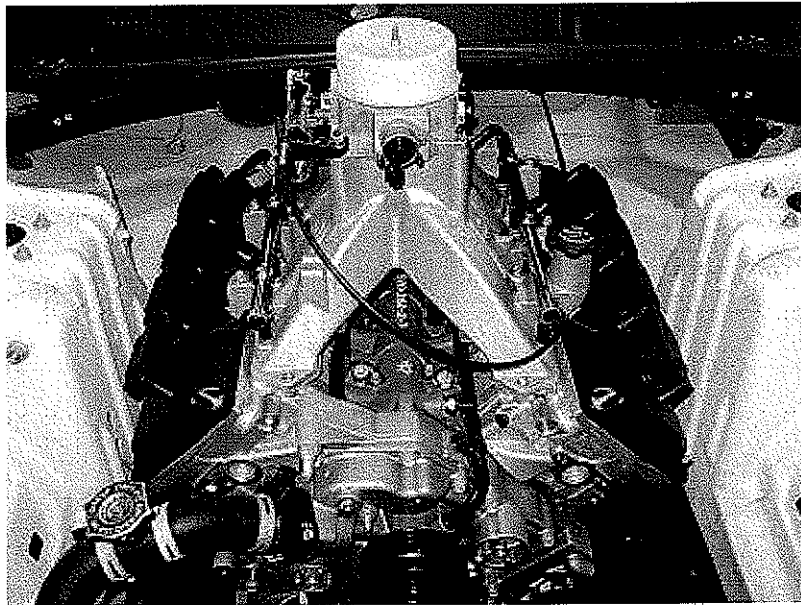
-Engine Section

Depending on your selection, your package car has been built with either a 5.7L, 6.1L, or 5.9 Magnum engine. It is intended that your engine will be rebuilt. All engines will be shipped with either a Tremec T56 manual core or automatic core transmission. Drag Pak kits will come with the corresponding pedal assemblies per your order application.

-Starter: The Mopar Performance starter (P5155287) must be used if using a 727, 904, or A833 transmissions. If using a Tremec, the production MTX starter can be used.

-PCV: The engine in the vehicle is completely sealed (no PCV system). You will have to check with your sanctioning body for rules regarding PCV system installation.

-Radiator Hoses: The lower radiator hose supplied comes without an internal spring (production lower hoses do not come with one) but for racing applications an internal spring may be needed to prevent collapse of the hose under a high RPM load.





LC22R Challenger Drag Pak

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LC22R Drag Package Car Engines and Service Parts

Engine and Drivetrain

	5.7L Hemi	6.1L Hemi	5.9L Magnum
Crate Engine Assembly	P5155190	P5155189	P5155197
Engine Block	not sold separately	05037471AD	P5153579
Short Block Assembly (stock)	05139102AC	RL159561AD	N/A
Crankshaft	P5155188	P5155188	P5007253
Cylinder Head Assembly w/ Valves	P5155241 (right), P5155242 (left)	P5155241 (right), P5155242 (left)	P5155285 (2)
Head Bolt Set	06506334AA (10), 06506694AA (20)	06506334AA (10), 06506694AA (20)	P4876759
Head Bolt Washer Set	N/A	N/A	P4120459
Intake Manifold	P5155288 (kit)	P5155288 (kit)	P5007790 (in MPI kit)
Intake Manifold Gaskets	P5153758 (set)	P5153758 (set)	P4876049
MPI Kit - Partial	N/A	N/A	P5155180 (w/ intake)
Piston & Pin Set	Diamond #46191	Diamond #46192	Diamond #51021
Piston Ring Set	05086002AC (8)	05159661AA	Total Seal # CR3690-SI
Throttle Body	P4510363	P4510363	P5153702 (in MPI kit)
Throttle Body Gasket	P5155202	P5155202	in MPI kit
Fuel Injector (ratings are @ 58 PSI)	04891574AD (8) (42 lbs/hr)	04891574AD (8) (42 lbs/hr)	05037479AA (8) (34 lbs/hr)
Connecting Rods - Mopar	P5153577	P5153577	N/A
Connecting Rods - Aftermarket	SCAT 2-ICR6200-7/16	SCAT 2-ICR6200-7/16	SCAT#2-ICR6123-2124
Oil Pump	05037687AB	05037687AB	P4286589
Bolt - Oil Pump to Block	6101383 (4), 06102046AA (1)	6101383 (4), 06102046AA (1)	N/A
Oil Pump Inter. Shaft & Gear	N/A	N/A	P3690715
Oil Filter	5281090	5281090	P4452890
Oil Pan & Pickup	P5155167	P5155167	P5155240
Oil Pickup Nut & Tube Seal	6502756, 53020861	6502756, 53020861	N/A
Dipstick Tube	53021859AC	53021859AC	04027249
Dipstick	53021858AD	53021858AD	03870265
Dipstick Fasteners	06508065AA (2) 53021144AA (o-ring)	06508065AA (2) 53021144AA (o-ring)	N/A
Bolt Kit - Oil Pan	06508448AA (19)	06508448AA (19)	P4120613
Rocker Arms	53021552AA (8) Intake	53021552AA (8) Intake	P5153852 (set)
Rocker Arms Continued	53021553AA (8) Exhaust	53021553AA (8) Exhaust	
Hydraulic Roller Tappet Set	Tappets Come w/ Retainer	Tappets Come w/ Retainer	P5249862
Valve Cover	05037531AC (2)	05037531AC (2)	P5007617 (set)
Oil Fill Cap	05037665AA	05037665AA	P4529880 (2)
Damper	P5155238	P5155238	53020229
Bolt - Damper / Crank	06508400AA	06508400AA	P5249557AB
Oil Slinger	N/A	N/A	P5249636
Pushrod Set	P5153629	P5153629	Trend 5/16" 7" long
Main Bearing Set	5M2220HX-STD	5M2220HX-STD	P5153513
Rod Bearing Set	Clevite CB663H1	Clevite CB663H1	Clevite CB-481H
Oil Pan Gasket	Milodon 40750	Milodon 40750	P5249932
Rear Main Seal	05140028AA (w/ Retainer)	05140028AA (w/ Retainer)	04778228
Crankshaft Key	06506397AA	06506397AA	P5249822
Camshaft Key	N/A	N/A	06029411 or P5249600
Pilot Bushing	N/A	N/A	P4876056AA
Timing Cover	04792795AD	04792795AD	P5249930AB



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6.1ATX 6.1MTX

Distributor Clamp	N/A	N/A	04343950 or P4349278
Water Pump	04792838AB	04792838AB	P5249558
Coolant By-Pass Hose	N/A	N/A	P4876373
Water Neck	53021536AC	53021536AC	P4452025
Bolt - Water Neck	06507071AA (2)	06507071AA (2)	w/ Water Neck
Thermostat	52028898AE	52028898AE	P4876308
Thrust Plate - Camshaft	N/A	N/A	P5249637
Bolt Kit - Camshaft Sprocket	06507480AA	06507480AA	P4529838
Timing Set	05037579AB	05037579AB	P5249267
Bolt - timing Tensioner to Block	06507479AA (3)	06507479AA (3)	N/A
Gasket Set - Complete	N/A	N/A	P4876249
Fuel Rail	05037480AA	05037480AA	53030598AB (in MPI kit)
Fuel Rail - Billet Aluminum w/ Regulator	P5153783	P5153783	N/A
Injector Clip	53030058AC (8)	53030058AC (8)	04418257AB (8) (in MP
Bolt - Fuel Rail to Intake	6101331 (4)	6101331 (4)	w/ MPI kit
Fuel Pump Block Off Plate	N/A	N/A	P5007546 (in MPI kit)
Coil Assembly w/ Fasteners	56029129AB (8)	56029129AB (8)	N/A
Ignition Wire Set	N/A	N/A	P4876432 (in MPI kit)
Ign. Wire Separator Set	N/A	N/A	P4007667 or P5007481
Distributor Cap & Rotor	N/A	N/A	P4876255AB (in MPI ki
Spark Plugs (4 pack)	SPLZTR5A13 (16)	SPLZTR5A13 (16)	P4876926 (2)
Block Hardware Kit	N/A	N/A	P5249261AB (incl.w/ bl
Nipple - Oil Filter Attach.	4104511	4104511	In Block Hardware Kit
Bushing - Intermediate Shaft	N/A	N/A	P1737725 (in hardware
Brass Core Plugs	N/A	N/A	P5249706
Oil Seal - Front Cover	53021585AD	53021585AD	P4876280
Gasket - Front Cover	05139933AB	05139933AB	P4876052
Gasket Set - Cylinder Head	53021620BC (left), 53021621BC (right)	05037592AC (2)	P4876048
Gasket Set - Valve Cover	05114179AB (2), 53021569AD (8)	05114179AB (2), 53021569AD (8)	P5249660
Gasket Set - Intake Manifold	P5153787 (left), P5153788 (right)	P5153787 (left), P5153788 (right)	P4876049
Gasket - Throttle Body to Intake	P5155202	P5155202	w/ MPI kit
Bolt Package - Timing Cover	6502929 (1), 06506270AA (3)	6502929 (1), 06506270AA (3)	P4529256
Bolt Package - Valve Cover	w/ Valve Cover	w/ Valve Cover	P5007620
Bolt Package - Water Pump	06506269AA (5), 06506270AA (5)	06506269AA (5), 06506270AA (5)	P4529256
Bolt Package - Water Pump Cont'd	06506684AA (1)	06506684AA (1)	
Bolt Package - Intake Manifold	06509098AA (10)	06509098AA (10)	P4876772
Thrust Washer Kit	05083979AA	05083979AA	N/A
Cam Plug - RFOB	06507663AA	06507663AA	w/ Block Hardware Kit
Crank Position Sensor	56028815AA	56028815AA	N/A
Main Cap Bolts	06506272AA (10), 06507697AA (10)	06506272AA (10), 06507697AA (10)	P5155001
IAC Motor	4861552AC	4861552AC	N/A
MDS Plug	53032221AA (4)	N/A	N/A
MDS Plug Fastener	6100274 (4)	N/A	N/A
Tone Wheel/Fastener Kit	P5155041	P5155041	N/A
MAP Sensor	56041018AD	56041018AD	N/A
Bolt - MAP Attach.	06104173AA (2)	06104173AA (2)	N/A
Knock Sensor	05033316AA (2)	05033316AA (2)	N/A
Coolant Temp Sensor	05269870AB	05269870AB	N/A
Cam Position Sensor	56041584AF	56041584AF	N/A



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6.1ATX 6.1MTX

Bolt - Cam Sensor to Cover	6501957	6501957	N/A
Bolt - Crank Sensor to Block	6100274	6100274	N/A
Idler Pulley	04792835AA, 04792875AA	04792835AA, 04792875AA	N/A
Idler Pulley (Continued)	04861660AA, 06102381AA	04861660AA, 06102381AA	N/A

Special Tools:

Oil Pump Priming Shaft	N/A	N/A	P4286800
TDC Indicator Tool	N/A	N/A	P4349737
Damper Degree Timing Tape	N/A	N/A	P4529070AB
Degree Wheel	N/A	N/A	P4452990
Spray Paint - Hemi Orange	P4349216AB	P4349216AB	P4349216AB
Book - Magnum Engines	N/A	N/A	P5007610 and P51537
Book - Chassis	P5007160	P5007160	P5007160AB

Other Parts:

Starter	P5155287	P5155287	P5249644AB
Trans. Kickdown Lever (5:1)	P4529023AB	P4529023AB	P4529023AB
8.75" Alum. Diff. Housing*	P4876445*	P4876445*	P4876445*
8.75" Axle Housing Gasket	P5007239	P5007239	P5007239
8.75" Axle Bearing Set	P5249444	P5249444	P5249444
8.75" Sure Grip Differential	P4876118	P4876118	P4876118
Flex Plate - 727/904 w/ 7/16" TC Screws	P5153753	P5153753	P4529751AB
Crank / FlexPlate Bolts (7/16")	6503565 (8), P4529592	6503565 (8), P4529592	P4120465

*P4876445 is not approved for use in NHRA Stock Eliminator classes, but is allowable for Super Stock competition



LC22R Challenger Drag Pak

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6.1ATX 6.1MTX

Body Service Parts:

Build Book	P5155107
Front Window, Left, Polycarbonate	P5155097
Front Window, Right, Polycarbonate	P5155098
Accelerator, Pedal	P5155108
Throttle Cable Kit (5.7/ 6.1 only)	P5155226
Trunk Release Cable	P5155227
Carbon Fiber Lift Off Hood with Undertray	P5155095
Replacement 6.1L/5.7L Hood Undertray	P5155430
Electronics	
Master Switch Panel	P5155250
Window Module, Right	P5155318
Window Module, Left	P5155319
Steering, Suspension, and Braking	
Mounting Kit, Engine, 5.7L/ 6.1L	P5155103
Mounting Kit, Engine, 5.9L	P5155102
Brake pedal, Automatic, w/ Master Cylinder	P5155259
Clutch / Brake Pedal, Manual, w/ Master Cylinder	P5155328
Steering Rack Assembly, Manual	P5155176
Front suspension knuckles with lightweight brake rotors and calipers	P5155203AB



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

NHRA SPECIFICATIONS:

Vehicle Parameters: Stock 6.1L HEMI

Vehicle Manufacturer: Chrysler, LLC Model Name: Dodge Challenger R
 Model Year(s): 2009 Annual # of Units: 100
 Wheelbase: 115.5 Track (F/R): 63.0 / 63.1 inch
 Wet Curb Weight: 3100 Windshield Slope Angle: NA
 Rear Window Slope Angle: NA Body Style (2 door, etc.): 2 door coupe

Engine Parameters: Stock

SAE Max Horsepower: 385 @6200 RPM Max Torque: 420 @ 4800 RPM
 Rev-Limit Speed: 6400 RPM Rev-Limit Method: electronically limited (ECU)
 Fuel Tank/Cell Capacity: 19 US Gal. Engine Location (frt, mid, rear): Front
 Number of Cylinders: 8 Displacement (cc): 370 / 6.1L
 Compression Ratio (max): 12.6

Cylinder Block:

Block Material: Cast Iron Part Number: P05037471AC (machined)
 Casting Number: 5037388AB
 Block Deck Height (min): 9.235 inch Deck Clearance (min): .0135 in , nom below deck
 Cylinder Bore (max): 4.055 inch Piston Stroke (max): 3.580 inch

Cylinder Head:

Head Material: Aluminum Part Number: P5155241 (rt) P5155242 (lt)
 Casting Number: 05037369AA
 Total Combustion Chamber Volume (min) (cc): 71.7 cc
 Head Flow Type: Crossflow: X Non-crossflow: _____



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

Valve System:

Number of Valves per Cylinder: Intake: 1 Exhaust: 1

Valve Head Diameter (max): Intake: 2.10 in Exhaust: 1.60 in

Valve Material: Stainless Steel

Valve Actuation Type (pushrod, finger follower, etc.): Pushrod

Engine Internals:

Piston Type: Flat: Dished: Domed: X Piston Mass (min):

Connecting Rod Length (Center to Center): 6.20 inch

Connecting Rod Material: Forged Steel

Connecting Rod Mass: 620 gms Piston, Pin, Rod & Ring(s) Mass (min): 1304 gms

Crankshaft P/N: P5155188 Crankshaft Mass (min): 60 lbs

Camshaft P/N: P5153691 Location/# of Camshafts: 1 In block

Lift @ Lobe (max): .365 inch Intake: .365 in Exhaust: .345 in

Lift @ Valve (max): .584 in Intake: .584 in Exhaust: .552 in

Rocker Arm Ratio: 1.6 Tappet Type: Hydraulic Roller

Rocker Arm Type: Forged Steel - Slider

Intake Manifold:

Manifold Material: Aluminum Part Number: P5155184

Casting Number: P5155173

Type of Induction System: MPI Location of Injectors: In runners

Number of Injectors per Cylinder: 1 Throttle Body Bore Dia.: 4 @ 1.75 in



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

Exhaust Manifold:

Manifold Material: Tubular steel

Drivetrain: Transmission Manual:

Number of Forward Speeds:	<u>6</u>	Manufacturer:	<u>Tremec T-56</u>			
Gear Ratios:	1 st :	<u>2.66</u>	2 nd :	<u>1.78</u>	3 rd :	<u>1.30</u>
	4 th :	<u>1.0</u>	5 th :	<u>.74</u>	6 th :	<u>.50</u>

Drivetrain: Transmission Automatic:

Number of Forward Speeds:	<u>5</u>	Manufacturer:	<u>Chrysler, LLC</u>			
Gear Ratios:	1 st :	<u>3.59</u>	2 nd :	<u>2.19</u>	3 rd :	<u>1.41</u>
	4 th :	<u>1.00</u>	5 th :	<u>.83</u>	6 th :	<u> </u>

Final Drive:

Differential Type: Open: X Limited Slip: Torsen:

Differential Manufacturer: Medigan Axle Ratio: 3.06

Ring Gear Outside Diameter: mm

Chassis: Suspension:

Spring Type (coil, leaf, etc.):	Front:	<u>Coil</u>	Rear:	<u>Coil</u>
Spring Material Dia. / Thickness:	Front:	<u>steel / .563 in</u>	Rear:	<u>steel / .625 inch</u>
Overall Spring Dia. / Width:	Front:	<u>3.0 in</u>	Rear:	<u>2.8 in</u>
Anti-roll Bar Diameter:	Front:	<u>30mm</u>	Rear:	<u>15mm</u>
Anti-roll Bar Design (solid, tube, etc.):	Front:	<u>solid</u>	Rear:	<u>solid</u>



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

Bushing Material: Rubber

Brakes:

Rotor Diameter (max): Front: 14.2 in Rear: 13.8 in
Rotor Thickness (max): Front: 1.26 in Rear: 1.10 in
Rotor Type (vented, solid): Front: Vented Rear: Vented
Rear Drum Diameter (if so equipped): NA Rear Drum Width (if so equipped): NA
Caliper Type & Number of Pistons: Front: fixed 4 piston Rear: fixed 4 piston

Stock Tires & Wheels:

Tire Size: Front: P235/55R18 Rear: P235/55R18
Wheel Diameter & Material: Front: 18 in Aluminum Rear: 18 in Aluminum
Wheel Width: Front: 7.5 in Rear: 7.5 in



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

Vehicle Parameters: Stock 5.7L HEMI

Vehicle Manufacturer: Chrysler, LLC Model Name: Dodge Challenger R
Model Year(s): 2009 Annual # of Units: 100
Wheelbase: 115.5 Track (F/R): 63.0 / 63.1 inch
Wet Curb Weight: 3100 Windshield Slope Angle: NA
Rear Window Slope Angle: NA Body Style (2 door, etc.): 2 door coupe

Engine Parameters: Stock

SAE Max Horsepower: 305 @6200 RPM Max Torque: 385 @ 4800 RPM
Rev-Limit Speed: 6400 RPM Rev-Limit Method: electronically limited (ECU)
Fuel Tank/Cell Capacity: 19 US Gal. Engine Location (frt, mid, rear): Front
Number of Cylinders: 8 Displacement (cc): 345 / 5.7L
Compression Ratio (max): 12.7

Cylinder Block:

Block Material: Cast Iron Part Number: 53021317DG
Casting Number: 53021319CB
Block Deck Height (min): 9.248 inch Deck Clearance (min): 0.0 inch
Cylinder Bore (max): 3.920 inch Piston Stroke (max): 3.580 inch

Cylinder Head:

Head Material: Aluminum Part Number: P5155241 (rt) P5155242 (lt)
Casting Number: 5037369AA
Total Combustion Chamber Volume (min) (cc): 71.7 cc
Head Flow Type: Crossflow: X Non-crossflow: _____



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

Valve System:

Number of Valves per Cylinder: Intake: 1 Exhaust: 1

Valve Head Diameter (max): Intake: 2.10 in Exhaust: 1.60 in

Valve Material: Stainless Steel

Valve Actuation Type (pushrod, finger follower, etc.): Pushrod

Engine Internals:

Piston Type: Flat: Dished: Domed: X Piston Mass (min):

Connecting Rod Length (Center to Center): 6.20 in

Connecting Rod Material: Forged Steel

Connecting Rod Mass: 620 gms Piston, Pin, Rod & Ring(s) Mass (min): 1272 gms

Crankshaft P/N: P5155188 Crankshaft Mass (min): 60 lbs

Camshaft P/N: P5153691 Location/# of Camshafts: 1 In block

Lift @ Lobe (max): .365 inch Intake: .365 in Exhaust: .345 in

Lift @ Valve (max): .584 in Intake: .584 in Exhaust: .552 in

Rocker Arm Ratio: 1.6 Tappet Type: Hydraulic Roller

Rocker Arm Type: Forged Steel - Slider

Intake Manifold:

Manifold Material: Aluminum Part Number: P5155184

Casting Number: P5155173

Type of Induction System: MPI Location of Injectors: In runners

Number of Injectors per Cylinder: 1 Throttle Body Bore Dia.: 4 @ 1.75 in



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
 6.1ATX 6.1MTX

Exhaust Manifold:

Manifold Material: Tubular steel

Drivetrain: Transmission Manual:

Number of Forward Speeds: 6 Manufacturer: Tremec T-56

Gear Ratios: 1st: 2.66 2nd: 1.78 3rd: 1.30

 4th: 1.0 5th: .74 6th: .50

Drivetrain: Transmission Automatic:

Number of Forward Speeds: 5 Manufacturer: Chrysler, LLC

Gear Ratios: 1st: 3.59 2nd: 2.19 3rd: 1.41

 4th: 1.00 5th: 0.83 6th:

Final Drive:

Differential Type: Open: X Limited Slip: Torsen:

Differential Manufacturer: Axle Ratio: 3.06

Ring Gear Outside Diameter:

Chassis: Suspension:

Spring Type (coil, leaf, etc.): Front: Coil Rear: Coil

Spring Material Dia. / Thickness: Front: steel / .563 inch Rear: steel / .625 inch

Overall Spring Dia. / Width: Front: 3.0 in Rear: 2.8 in

Anti-roll Bar Diameter: Front: 30mm Rear: 15mm

Anti-roll Bar Design (solid, tube, etc.): Front: solid Rear: solid

Bushing Material: Rubber



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

Brakes:

Rotor Diameter (max): Front: 14.2 in Rear: 13.8 in
Rotor Thickness (max): Front: 1.26 in Rear: 1.10 in
Rotor Type (vented, solid): Front: Vented Rear: Vented
Rear Drum Diameter (if so equipped): NA Rear Drum Width (if so equipped): NA
Caliper Type & Number of Pistons: Front: fixed 4 piston Rear: fixed 4 piston

Stock Tires & Wheels:

Tire Size: Front: P235/55R18 Rear: P235/55R18
Wheel Diameter & Material: Front: 18 in Aluminum Rear: 18 in Aluminum
Wheel Width: Front: 7.5 in Rear: 7.5 in



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

Vehicle Parameters: Stock 5.9L Magnum

Vehicle Manufacturer: Chrysler, LLC Model Name: Dodge Challenger R
 Model Year(s): 2009 Annual # of Units: 100
 Wheelbase: 115.5 Track (F/R): 63.0 / 63.1 inch
 Wet Curb Weight: 3200 Windshield Slope Angle: NA
 Rear Window Slope Angle: NA Body Style (2 door, etc.): 2 door coupe

Engine Parameters: Stock

SAE Max Horsepower: 275 @5600 RPM Max Torque: 385 @ 4800 RPM
 Rev-Limit Speed: 6000 RPM Rev-Limit Method: electronically limited (ECU)
 Fuel Tank/Cell Capacity: 19 US Gal. Engine Location (frt, mid, rear): Front
 Number of Cylinders: 8 Displacement (cc): 360 / 5.9L
 Compression Ratio (max): 11.4

Cylinder Block:

Block Material: Cast Iron Part Number: P5153579
 Casting Number: P5153477
 Block Deck Height (min): 9.575 inch Deck Clearance (min): .004 inch above
 Cylinder Bore (max): 4.00 inch Piston Stroke (max): 3.580 inch

Cylinder Head:

Head Material: Aluminum Part Number: P5155285
 Casting Number: P5153847
 Total Combustion Chamber Volume (min) (cc): 56.0 cc
 Head Flow Type: Crossflow: X Non-crossflow: _____



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

Valve System:

Number of Valves per Cylinder: Intake: 1 Exhaust: 1

Valve Head Diameter (max): Intake: 2.03 in Exhaust: 1.61 in

Valve Material: Stainless Steel

Valve Actuation Type (pushrod, finger follower, etc.): Pushrod

Engine Internals:

Piston Type: Flat: X Dished: Domed: Piston Mass (min): 537 gms

Connecting Rod Length (Center to Center): 6.12 in

Connecting Rod Material: Forged Steel

Connecting Rod Mass: 596 gms Piston, Pin, Rod & Ring(s) Mass (min): 1302 gms

Crankshaft P/N: P5007253 Crankshaft Mass (min): 57 lbs

Camshaft P/N: P5007551 Location/# of Camshafts: 1 In block

Lift @ Lobe (max): .307 inch Intake: .307 in Exhaust: .307 in

Lift @ Valve (max): .490 in Intake: .490 Exhaust: .490

Rocker Arm Ratio: 1.6 Tappet Type: Hydraulic Roller

Rocker Arm Type: Aluminum Roller Tip

Intake Manifold:

Manifold Material: Aluminum Part Number: P4510046AB

Type of Induction System: MPI Location of Injectors: In runners

Number of Injectors per Cylinder: 1 Throttle Body Bore Dia.: 4 @ 1.75 in

Exhaust Manifold:



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

Brakes:

Rotor Diameter (max): Front: 14.2 in Rear: 13.8 in
Rotor Thickness (max): Front: 1.26 in Rear: 1.10 in
Rotor Type (vented, solid): Front: Vented Rear: Vented
Rear Drum Diameter (if so equipped): _____ Rear Drum Width (if so equipped): _____
Caliper Type & Number of Pistons: Front: fixed 4 piston Rear: fixed 4 piston

Stock Tires & Wheels:

Tire Size: Front: P235/55R18 Rear: P235/55R18
Wheel Diameter & Material: Front: 18 in Aluminum Rear: 18 in Aluminum
Wheel Width: Front: 7.5 in Rear: 7.5 in



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648

6.1ATX 6.1MTX

NHRA Technical Specifications

For

2009 Chrysler LLC. Motors

Challenger R

BORE	STROKE	DISPLACEMENT	CYLINDERS	ROD LENGTH
3.920	3.580	345	8	6.200
4.000	3.580	360	8	6.123
4.055	3.580	370	8	6.200

H.P.	Disp.	C.R.	Ind.	Make	Casting	Intake Manifold	Lifter	RR	Head cc's	Notes
305	345	12.7	MPI	CHRY	P5155173	P5155184	H/R	1.60	71.7	A
275	360	11.4	MPI	CHRY	P4510046	P4510046AB	H/R	1.60	56.0	B C
385	370	12.6	MPI	CHRY	P5155173	P5155184	H/R	1.60	71.7	A

Throttle Bore Sizes

A / B - 1.75 inch

C - Aluminum roller tip rocker arm

H.P.	Disp.	Deck Cl.	Piston	Height @ TDC	Vol	Valves	Cam Lift	Springs	Gasket
305	345	NA	Dome OEM uses Diamond piston # 46191	.205	16.4 cc	2100/1600	584/552	Beehive	.026
275	360	.004ab	Flat w/notches OEM uses Diamond piston # 51021	6.8 cc	2020/1600	490/490	Outer w/Damper	.040	
385	370	NA	Dome OEM uses Diamond piston # 46192	.137	14.8 cc	2100/1600	584/552	Beehive	.039

Head Castings

305 345 05037369AA

275 360 P5153847

385 370 05037369AA

Runner Volumes

In - 196 cc Ex - 64 cc

In - 178 cc Ex - 77 cc

In - 196 cc Ex - 64 cc

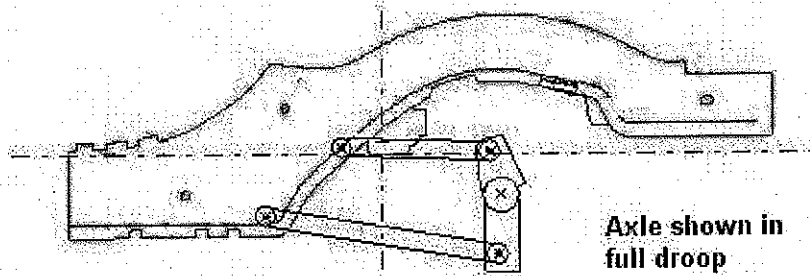


LC22R Challenger Drag Pak

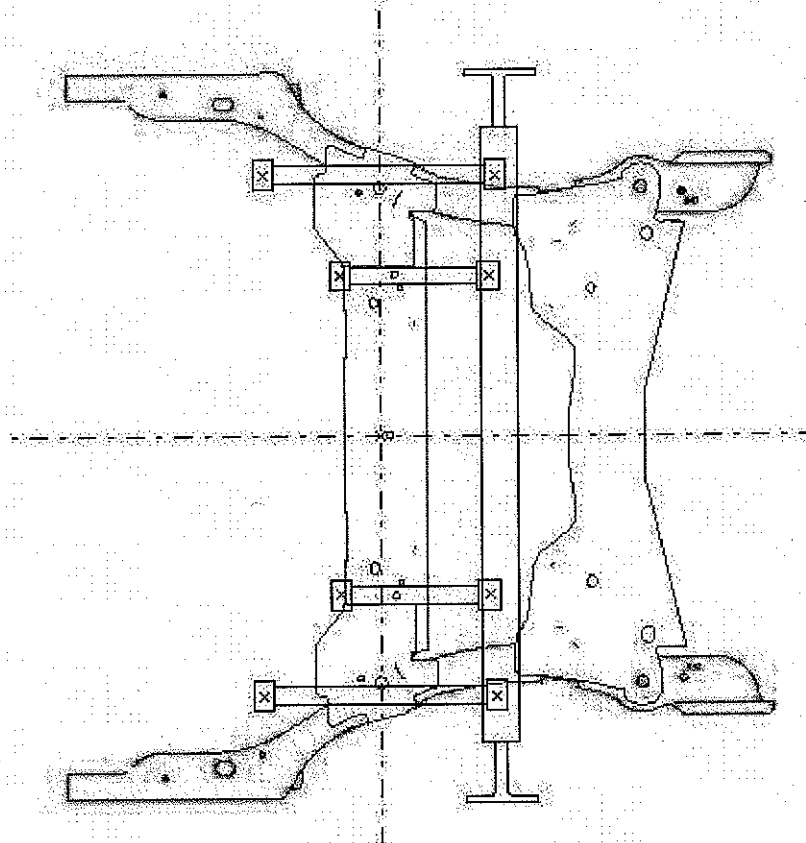
Part Number: P5155647, P5155648
6.1ATX 6.1MTX

Axle specifications:

2009 Challenger Mopar Drag Package Car



Reference lines are in relation to cradle mounting holes



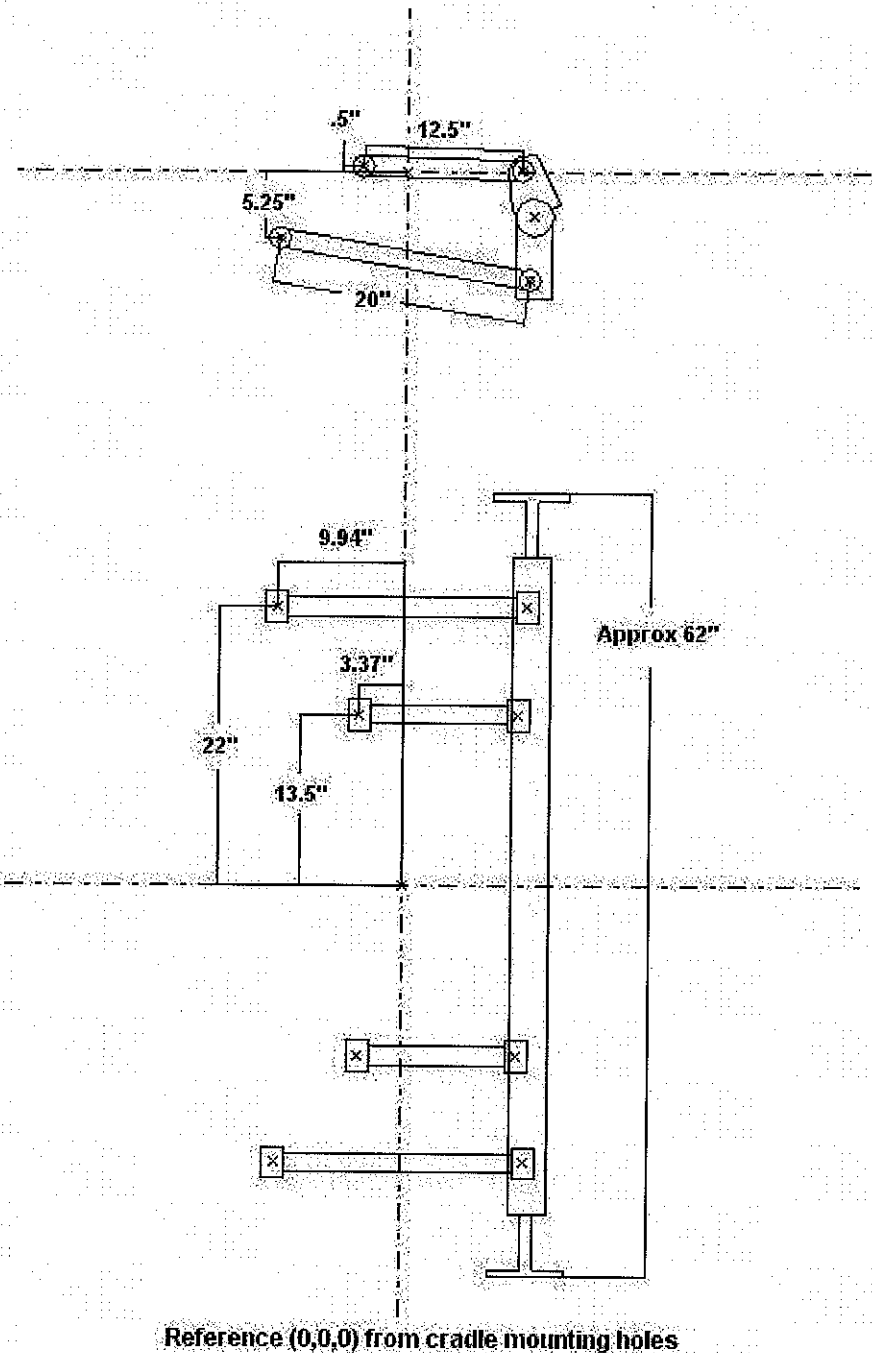
Reference lines are in relation to cradle mounting holes and vehicle center line



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

2009 Challenger Mopar Drag Package Car

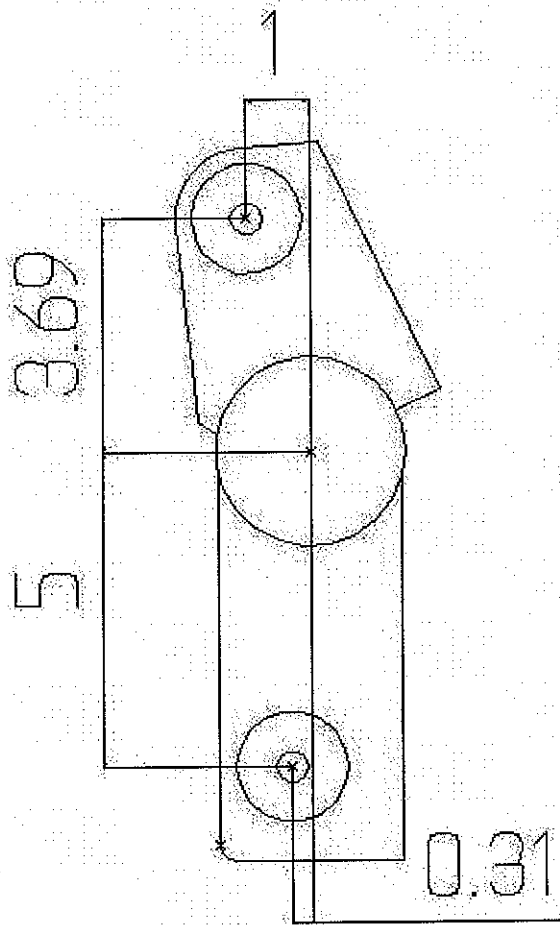




LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX

2009 Challenger Mopar Drag Package Car

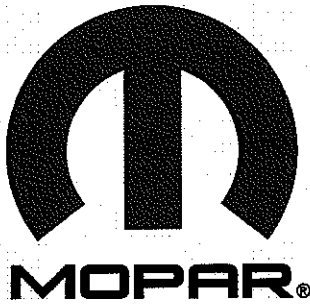


Rear Axle Dimensions



LC22R Challenger Drag Pak

Part Number: P5155647, P5155648
6.1ATX 6.1MTX



Direct Connection Service Bulletin #2009-1, Version A

October 13, 2009

SUBJECT:

Mopar Challenger Drag Pak master cylinder fasteners.

MODELS:

2009 Challenger Drag Pak

P5155289 6.1L ATX

P5155292 6.1L MTX

DISCUSSION:

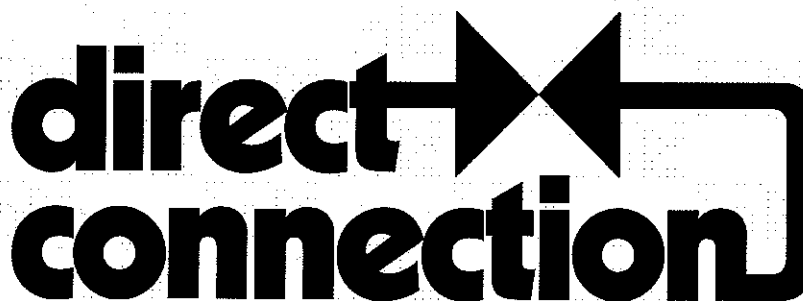
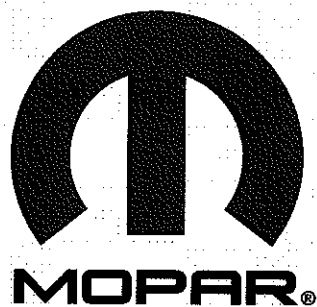
The Mopar Challenger Drag Pak vehicles (serial number 2009001 through 2009018, and 2009020 through 2009022) were equipped with brake master cylinder / adapter block fasteners that may be at risk of failure.

The fasteners for the brake master cylinder / adaptor block must be replaced with the supplied fasteners before operating your vehicle!

Please perform the following update:

- 1) If the brake lines have already been plumbed to the brake master cylinder then they will need to be removed.
- 2) Remove the bolt and nut that attach the master cylinder push rod end to the brake pedal.
- 3) Remove the two nylock nuts, and washers, that retain the master cylinder to the aluminum adapter block, discard the nuts, save the washers.
- 4) Remove the four 5/16-18 nuts and washers that retain the adapter block to the brake pedal sled (under dash), discard the nuts, save the washers.
- 5) Remove the adapter block from the vehicle.
- 6) Remove the four studs from the adapter block and discard the studs (heat from a propane torch may be needed to loosen the previously applied locktite).
- 7) Attach the master cylinder to the brake adapter block using the 5/16-18 x 2.5" long (grade 5) bolts and reuse the washers from step 3. (The radius face of block faces the master cylinder). Torque to 15-18 ft-lbs.
- 8) Install the 5/16-18 x 2" long (grade 5) bolts into the two lower holes of the brake adapter block. Torque to 15-18 ft-lbs.
- 9) Install the master cylinder/adapter block assembly into the vehicle using the four new nylock nuts and reuse the washers from step 4. Torque to 15-18 ft-lbs.
- 10) Reinstall the master cylinder push rod end to the brake pedal. Torque to 35 ft-lbs.
- 11) If the brake lines were removed, then reinstall and bleed the braking system per a relevant service manual.

If you have any questions or concerns please contact the Direct Connection Hot Line at 888-528-HEMI.



Direct Connection Service Bulletin #2009-2, Version B

November 30, 2009

SUBJECT:

Mopar Challenger Drag Pak Titanium Valve Spring Retainers.

MODELS:

2009 Challenger Drag Pak

P5155289	6.1L ATX
P5155292	6.1L MTX
P5155290	5.7L ATX
P5155294	5.7L MTX

DISCUSSION:

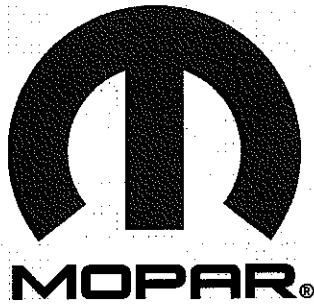
The Mopar Challenger Drag Pak vehicles (engine serial numbers PC1001 through PC1043, PC1045, and PC1046) came equipped with titanium valve spring retainers. For reference, the engine serial number is located on a pad behind the oil filter.

According to the 2009 NHRA championship drag racing rulebook (**Section 8A-Stock Cars, VALVE SPRINGS**), the rules indicate: "Steel valve-spring retainers mandatory."

NHRA has agreed to allow the Mopar Challenger Drag Pak cars to compete in the 2009 year with titanium valve spring retainers. However, for 2010 the Mopar Challenger Drag Pak cars must replace the titanium retainers with steel retainers.

Steel valve retainers are available from Stanton Racing 859-885-7354.

If you have any questions please contact the Direct Connection Hot Line at 888-528-HEMI.



Direct Connection Service Bulletin #2009-3, Version A

November 30, 2009

SUBJECT:

Mopar Challenger Drag Pak, High RPM Oiling System.

MODELS:

2009 Challenger Drag Pak

P5155289	6.1L ATX
P5155292	6.1L MTX
P5155290	5.7L ATX
P5155294	5.7L MTX

DISCUSSION:

The Mopar Challenger Drag Pak vehicles equipped with 6.1L and 5.7L Hemi engines were tested up to 6400 rpm. The oiling system, as equipped with the car, is sufficient up to 6400 rpm.

If you plan on racing your engine above 6400 rpm's, then enhancements to the oiling system should be considered.

It's up to each engine builder to specify, and verify the oiling system modifications. However some suggested areas to consider, including but not limited to are:

- Oil filter. Consider using a quality high flow race filter, Mopar PN 05038041AA (Viper) or equivalent. Note the Viper oil filter requires 3/4"-16 oil filter nipple Mopar PN 04104511AB. For reference M22x1.50 oil filter nipple is Mopar PN 4892338AA.
- Oil windage. At high rpm, oil drain back may be an issue. Investigate windage tray options.
- Oil accumulators. NHRA allows the use of oil accumulators. Oil accumulators add extra capacity and will provide oil pressure if the oil system drops below optimal.
- Make sure there is adequate clearance from the bottom of the oil pan to the pick up.

If you have any questions please contact the Direct Connection Hot Line at 888-528-HEMI.