

**2020 Class Rules**  
**Holley Performance**  
**Everyman's LS**  
**MASTERS of MOTORS**



## Holley Performance Everyman's LS

### TECHNICAL RULES – Section 300

(NOTE: This class will use a 388 cubic inch divider in scoring for engine displacement. Scoring test range will be 3500 to 7500 RPM. Pull range will be 3300 to 7600 RPM. **Scoring will be as follows; Competitor will turn in any 3 accepted dyno pulls from the Masters of Motors competition. The 3 dyno sheets will supply the avg torque and avg power, within the score range, and those quotients will be used. The 3 avg torque numbers will be added together and divided by 3 to give the avg torque quotient for scoring purpose. The same will be done with the HP avg numbers from those sheets. The HP and TQ quotient averages will then be added together and multiplied by 1000 and divided by 388 cubic inch. Standard rounding will be used in the final score number. Example :  $2461.7 = 2462$**

### 300-ENGINE

Normally aspirated US domestic LS based engine with OEM 15 degree production cylinder heads.

Power adders prohibited. Any method of artificially heating and/or cooling engine fluids, fuel, and/or air prohibited (not to include thermal or friction coatings). This includes, but is not limited to, heating and/or cooling by mechanical device such as an external cooler or radiator/heat exchanger, pre-heating or cooling of any fluids with an oil heater or fuel heater/cooler, or the addition of a temperature-altering device designed to cool or heat the incoming air charge by mechanical means such as an intercooler, chemical means such as a chemical to cool either the incoming air/fuel charge or intake manifold, or electrical means such as an electric oil heater inside or outside the engine. Aftermarket SFI spec 18.1 harmonic balancer mandatory.

### 301- DISPLACEMENT

Displacement is limited to 388 cubic inches. Cubic inch is calculated by bore x bore x stroke x 6.2832. Bore and stroke are measured to the third decimal place, i.e. 0.001. Cubic inches are calculated to one (1) decimal place i.e. 350.0. Any part of a cubic inch is rounded up to the next highest inch (i.e.  $301.2 = 302$ ) for the purpose of claimed cubic inch of engine as used in scoring. The cubic inch used in scoring will be a whole number; no decimal part will be used.

### 302- ENGINE BLOCK

Any domestic OEM passenger car, truck or commercially available aftermarket OE direct replacement block, having OEM deck height and main bore diameter. Engine block must retain OEM cylinder bore spacing, and OEM block angle. Lifter bores may be bushed. The responsibility for adapting to the SUPERFLOW dyno cart is that of the participa

### 303 – MOTORPLATES

Front style “motor plates” are "required" for installation on the Superflow Dyno. Motorplate must be between 26" and 29" width as measured across the camshaft center line. 1/4" Aluminum or steel plate is acceptable.

### 304 – CRANKSHAFT

Any catalogue or commercially available steel or cast iron crankshaft permitted. A participant supplied pilot bearing IS required. Pilot bearing I.D. required is .594.

### 305– CYLINDER HEADS

OEM mass-produced, 15-degree GM serial numbered cylinder heads are the only type of heads that can be used. Any commercially available stainless steel valve permitted. Titanium valves and/or springs prohibited. Titanium retainers permitted. Up to one intake and / or one exhaust runner may be repaired by brazing, welding or epoxy. Flow and / or directional changes by use of said epoxy are strictly prohibited. The stock OEM intake bolt flange must be used and maintained. Head gaskets must be conventional style, embossed steel or composition with a MAX compressed thickness of .120". No part of the mating surface of the head/head gasket may extend or protrude into the cylinder of the block.

Cylinder head must match engine type. Porting permitted. Welding or epoxy filler prohibited. Minimum valve stem diameter 5/16". Valve angle must remain as per manufacture's specifications, +1/-1 degree. Flange adapters that connect the exhaust ports to the header prohibited.

### 306 – IGNITION

Must be commercially available. Ignition components must be mounted on a plate attached to the flywheel side of the engine block or back of the heads / intake. Coils may be mounted on motor plate, valve covers or side of block.

### 307–CARBURETION

Unlimited.

Water or any other auxiliary fluid injection systems prohibited. Engines must be equipped with a single point rearward-pull mechanical throttle linkage compatible with the dyno actuation linkage. A bracket providing an anchor point for the dyno throttle cable and a compatible linkage ball is required at the pull point. A diagram detailing the requirement will be provided to all accepted MOM participants.

All engines will utilize a pre-pump fuel filter, electric fuel pump and regulator and supply line filter supplied by the dyno facility and each engine builder utilizing a carburetor will determine the fuel pressure. Both single and dual feed application will be given one (1) type 8 AN connection fuel line located on the SUPERFLOW dyno chassis approximately 46 inches from your carburetor, so design your system accordingly. Knock (detonation) sensors prohibited.

### 308 – FUEL INJECTION

Fuel injection system and style unlimited.

Knock (detonation) sensors prohibited. Water or any other auxiliary fluid injection systems prohibited. The throttle body must be equipped with a single point rearward-pull mechanical throttle linkage compatible with the dyno actuation linkage. A bracket providing an anchor point for the dyno throttle cable and a compatible linkage ball is required at the pull point. A diagram detailing the requirement will be provided to all accepted MOM participants.

Fuel pressure regulation will be provided by a system consisting of pre-pump filter, electric fuel pump, regulator and supply line filter as part of the dyno fuel system. Fuel pressure will be set at 65 psi maximum on the dyno fuel pressure gauge. Fuel pressure will be set prior engine start up (engine off). This is a Supply and Return system. A single -8 AN fitting will be required for fuel hook-up and will be provided approximately 46 inches from center of engine as locked down on SUPERFLOW dyno. A single -8 AN fitted and return fuel line will be supplied to fuel tank.

### 310 – AIR SUPPLY

Dyno cell (Room) supplied/Fresh air

### 311– AIR FILTER

Heat shields or plates between the intake manifold and carburetor prohibited. This includes any structure deemed by the event personnel as designed to take advantage of airflow in dyno installation.

### 312 – CAMSHAFT / LIFTERS / VALVE LIFT

#### 312 A – CAMSHAFT

Camshaft may be custom ground. A hydraulic roller camshaft is required. Camshaft must maintain OEM journal diameters as originally manufactured in production for engine claimed. Roller cam bearings prohibited. Welded camshaft cores prohibited. Nitrided cores permitted. Cam bearing O.D. is limited to a max of 1mm oversize for engine claimed.

#### 312 B –LIFTERS

Engine must retain OEM lifter bore size for engine selected. Lifter bore bushings for purpose of blueprinting permitted. Relocation of lifter bore or lifter bore bushing prohibited. Hydraulic lifter must have minimum plunger travel of .050in.

### 313 – CAMSHAFT DRIVE

A commercially available three-piece timing chain set required. Belt drives, exposed or hidden under covers prohibited.

### 314– INTAKE MANIFOLD

Engine must use a mass produced commercially available cast, sheet metal or composite intake manifold. Billet runners or plenum prohibited. Maximum thickness between intake manifold & cylinder head 0.100” measured with a “go-no go” gauge with engine assembled as to be run. External bypass coolant lines on intake manifold prohibited. All carburetors must mount to the intake manifold flange. Porting of the intake permitted. Welding and/or epoxy filler prohibited on any part of cast manifold. Forward facing intake manifold allowed for EFI applications.

### 315– CONNECTING RODS

Any commercially available steel connecting rods permitted. Aluminum, titanium, or any other exotic materials prohibited.

### 316- PISTONS AND RINGS

Any commercially available pistons permitted. Custom-made, modified, and/or coated pistons permitted. Vertical gas ports permitted. Pistons may have horizontal gas ports. The ring package must consist of two compression rings and a single oil ring assembly. Compression rings must be 1mm” or larger rings. Minimum oil ring assembly width is 2mm.

### 317 – COMPRESSION RATIO

Compression ratio limited to 12:5:1

### 318 -- ROCKER ARMS

Rocker system must be mass produced and commercially available. The use of exotic materials is prohibited.

### 319–HEADERS

Headers will be provided for competition. The header that will be provided will be 1 7/8” primary. Each competitor will use same set of headers for competition purposes. **The part number of the dyno header is Hooker/Blackheart 70101301-RHKR.** Crankcase ventilation systems that vent to any component of the exhaust system are prohibited. Bungs for Lambda O2 sensors supplied. Thermal header wraps (such as Kevlar fabric) prohibited. Exhaust systems must be properly sealed from the header flange to the muffler inlet. Adaptor plates between cylinder head & header prohibited.

### 320–MUFFLERS

H-pipes, X-pipes, or any such connection between the left and right headers and/or the exhaust system prohibited. Mufflers will NOT be utilized in the dyno cell.

### 321- OIL PAN / SCRAPER

Any un-modified cataloged oil pan without any power type kickout and no wider than the block pan rails for the engine make / model is permitted. Sump “kick outs” are prohibited. Oil pan must be manufactured and cataloged to fit an LS engine application. Oil Pan identifying part number and application must match current printed manufacturer’s catalog for verification. Competitor is required to present printed catalog showing oil pan part number and application. Oil pan must fit the block without alteration. Modification and/or alteration of the as-manufactured oil pan prohibited. Crank scrapers and/or windage trays permitted. Oil pan maximum depth is 12 inches measured from crankshaft centerline.

Commercially available cast or billet replacement style oil pump allowed. Oil pump must mount in factory location using OEM style provision for the engine type. Dry sump systems and vacuum pumps prohibited. Oil system accumulators prohibited. External oil feed lines prohibited. Belt-driven external oil pumps prohibited.

Electrically powered oil pumps prohibited. Drain plug must be ½-20 thread.

### 322 - OIL

All engines must be shipped “dry.” Engine will be required to use at least 6 quarts of oil. Participants will only use supplied oil for competition. Propylene Oxide or other oxidizing agents/substances prohibited. Oil is provided at the event. Oil filter must be dry and will be removed for inspection prior to running.

### 323- OIL ADDITIVES

No oil additives permitted.

### 324 - WATER PUMP

Water pump must be belt driven by crankshaft. Mechanical water pump required. Water pumps must be mounted in the OEM location. Water flow in and out of the water pump must be provided by the OEM block provisions only. Use of a cooling system thermostat prohibited. Water "feed" connections are limited to a set diameter of 1.5 inch O.D. and water "return" connections are limited to a set diameter of 1.5 inch O.D. Additional plumbing required to adapt engine to these sizes is participant's responsibility. If the connections you have do not match the sizes listed above you could be required to forfeit your position in the run order.

### 325 - ELECTRICAL CONNECTIONS

BE PREPARED! Participants should arrive at the event fully prepared (tools & supplies) to alter or change the electrical connections on their engine during the Pre Dyno Tech to fit the required connections on the dyno. Failure to comply with Rule (section 325) could result in loss of, or forfeiture of run position.

It is the participant's responsibility to assure the electrical equipment on the engine will work with the SUPERFLOW dyno connectors at location.

### 326 - STARTER

Not required. Starter is built into the Superflow dyno system.

### 327 – FLYWHEEL

Any commercially available, unmodified SFI-certified domestic manual STEEL transmission flywheel mandatory. Flexplates prohibited. Special order flywheels prohibited. Installation and torque of the flywheel bolts will be done by the Team Leader and observed by a MOM Tech official. Starter ring may need to be removed from the flywheel for clearance inside the Superflow Pro Bell (recommended).

### 328 - BELLHOUSING

Each Engine entered in MOM "MUST" fit the SuperFlow Pro Bell housing.

The Bellhousing is part of the SuperFlow system at the JE pistons R&D Dyno that is being used in the MOM competition. (It is the responsibility of each participant to make sure his engine will fit a Super Flow Pro bellhousing)

### 329 - COATINGS

Any commercially available performance coating permitted. The application of thermal and/or friction coatings can be performed at any time prior to the competition on any part. Coating a part is not considered a modification, and parts that cannot be legally modified, may be coated.

### 330 – FUEL

Gasoline supplied at the event will be TBA

SIGNATURE AND ACCEPTANCE OF 2020 MASTERS of MOTORS RULES  
SIGN AND RETURN WITH ENTRY FEE NO LATER THAN MAY 1st, 2020

The undersigned Team Leader, on behalf of all members of their Team's Accepted Entry Application into the 2020 AMSOIL Masters of Motors competition presented by JE Pistons, hereby confirms that they have read, understand, agrees to, and will adhere to the Rules of the 2020 AMSOIL Master of Motors event.

Additionally, the undersigned acknowledges that these Rules are effective upon date of release and publication. It is also further understood that the Rules may be amended or modified by Masters of Motors: The Masters of Motors Event Management at its sole discretion at any time in accordance with the provisions in this document, wherein such Amendments and/or Addendums are effective upon their date of publication on [www.mastersofmotors.com](http://www.mastersofmotors.com), and/or by email communication to all Entrants, and/or by written memorandum to all Entrants, and/or by a pre-event participant's meeting.

It is expressly understood that it is the responsibility of the entrant to monitor the website and/or email or mail notification for any Rules Amendments, Addendums, Modifications, or Special Provisions. Entrant agrees to adhere to and abide by any such Rules Modifications that may be made subsequent to this document.

TEAM NAME: \_\_\_\_\_

Signature of Team Leader: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_

If after reading the Rulebook you still have questions, please correspond via email to [questions@mastersofmotors.com](mailto:questions@mastersofmotors.com). Please make sure your questions are specific and well prepared in advance.