

## 2020 Limited Late Model Stock Rules

Revised 1/18/20

\$1000 fine for tire soaking \$100 fine for antifreeze

The Limited Late Model Limited Division will run under the 2020 NASCAR Whelen All American Series Late Model Stock Car Rules with the following allowances.

### COMPETING MODELS:

1. 1996-2020 American-made Passenger car production sedans. 2. Ford: Thunderbird, Taurus, Fusion 3. Pontiac: Grand Prix 4. Chevrolet: Lumina, Monte Carlo, Impala 5. Dodge: Intrepid, Charger 6. Toyota: Camry 7. Chevrolet Camaro and Ford Mustang bodies allowed, must be installed at the manufactures specifications and approved by HMS Tech Director. Rear spoiler must meet 2020 NASCAR LMSC specifications.

### OVERALL CAR WEIGHT (total/right side)

1. Chevy ZZ4/603 and Ford 347JR engine: 3075/1350 lbs with driver.
2. Chevy 8604 Crate engine: 3100/1390 lbs with driver
3. Ford D347SR engine: 3100/1400 lbs with driver
4. Hickory little engine: 3000/1350 lbs. with driver. (3050/1375 with 500 gram pistons).
5. Late Model Stock engine: 3100/1400 lbs with driver.
6. 8602 Crate engine 3050/1350 lbs with driver.
7. HMS Enforcer (Harrington Spec) 3100/1400 lbs with driver

When cars are weighed after a race, only water in the radiator, 2 quarts of oil in the engine, and fuel as determined by race officials may be added. No wheels or tires may be changed. Cars must meet minimum weight after qualifying

### DETAILED CAR BODY REQUIREMENTS

1. Refer to LMSC 2020 with the following allowances:
2. 46 inch maximum measurement from the leading edge of front air dam to center line of right front spindle 3. Steel Body cars refer to the LMSC (2009)

### GENERAL ENGINE REQUIREMENTS

#### ZZ4 Crate Motor (PN# 88958603)

1. Engine must be stock out of the crate except for the following.
2. Valve covers may be changed.
3. Oil pan may be changed. Late Model Stock rules apply.
4. Valves springs must be stock for ZZ4 engine (No Aftermarket Springs).
5. Optional: GM 604 "Beehive" type valve springs may be used but they must remain as specified in the GM Performance Parts Circle Track Engine Technical Manual (No Aftermarket Springs). Shimming will be permitted to maintain 1.78" installed height as per GM Performance parts Circle Track Engine Technical manual.
6. Rockers Arm must be stock for ZZ4 engine.
7. Polylock rocker arm nuts will be permitted.
8. Carburetor Holley HP80507-I 390 cfm stock out of the box. Only changes allowed are the power valve, squirters, screw-in air bleeds and jets. Recommended that boosters be epoxied to carburetor body. Only Holley replacement parts allowed.
9. A one piece open hole solid aluminum carburetor spacer, a maximum 1" in thickness, may be used between the intake manifold and the carburetor. The spacer must be centered on the intake manifold with a single open hole which must be cut perpendicular with the base of the carburetor. Taper, bevels, or any other modifications will not be permitted.
10. A one piece, one hole paper gasket. Maximum .065" thickness that matches the exterior dimensions of the carburetor throttle base plate must be installed between the carburetor and spacer. A one piece paper gasket maximum .065" thickness must be installed between the spacer and the intake manifold. The gasket must not be larger than the top of the intake.
11. The bottom of the air filter housing must be lower or equal to the top of the carburetor vent tubes.
12. Offset air cleaner may be used for distributor clearance.
13. No spacer between air cleaner base and carburetor.
14. Same as LMSC, except offset allowed for distributor clearance.
15. Stock vibration dampener only!
16. Any non-approved modifications may result in confiscation of entire engine assembly including but not limited to intake, starter, valve covers, rocker arms, springs, etc.
17. Crate motor technical specifications will be based on the GM Performance Parts Circle Track Crate Engine Technical Manual part# 88958668 revised 2012.
18. All crate engines must be located with the # 1 spark plug lining up to right side upper ball joint.

#### GM Fast burn 350/400 Circle Track Engine (PN# 88958604)

1. Fast burn crate engine will use only an approved Holley 2 barrel 450 cfm Carburetor or either stock 500 cfm Holley/500 cfm Holley Ultra XP. Only changes that will be allowed are the power valve, squirters, screw-in air bleeds and jets. Recommended that the boosters be epoxied to carburetor body. Only Holley replacement parts allowed.
2. .750" thick maximum NASCAR LMSC approved aluminum spacer allowed between carburetor and intake manifold.
3. Engine must remain completely stock except for valve covers and oil pan. See Late Model Stock NASCAR rulebook for oil pan rules.
4. All crate engines must be located with the # 1 spark plug lining up to right side upper ball joint.
5. GM 604 Crate Motors may run any 1.5 or 1.6 aluminum self-aligning rocker arms with 3/8" stud. A combination of 1.5 and 1.6 rocker arms is approved, however, 1.6 rockers must be on the intake valves with 1.5 rockers on the exhaust valves.
6. GM 604 Crate Motors without the new style 'Beehive springs' may use aftermarket retainers, keepers, locators/spacers, but all parts must be magnetic steel. Shimming will be permitted to maintain 1.78" installed height as per GM Performance parts Circle Track Engine Technical manual.
7. GM 604 valve springs must remain as specified in the GM Performance Parts Circle Track Engine Technical Manual. (No Aftermarket Springs)
8. Crate motor technical specifications will be based on the GM Performance Parts Circle Track Crate Engine Technical Manual part# 88958668 revised 2012.

#### M-6007-S347JR Crate Engine

1. Crate motor technical specifications will be based on the 347 Series Ford Racing Tech Spec Manual.
2. Valve covers and oil pan may be changed. See Late Model Stock NASCAR rulebook for oil pan rules
3. Carburetor Holley HP80507-I 390 cfm stock out of the box. You may change jets, squirters, screw-in air bleeds and power valve only. Recommended that boosters be epoxied to carburetor body. Only Holley replacement parts allowed.
4. A one piece open hole solid aluminum carburetor spacer, a maximum 1" in thickness, may be used between the intake manifold and the carburetor. The spacer must be centered on the intake manifold with a single open hole which must be cut perpendicular with the base of the carburetor. Taper, bevels, or any other modifications will not be permitted.
5. A one piece, one hole paper gasket. Maximum .065" thickness that matches the exterior dimensions of the carburetor throttle base plate must be installed between the carburetor and spacer. A one piece

paper gasket maximum .065" thickness must be installed between the spacer and the intake manifold. The gasket must not be larger than the top of the intake.

6. The bottom of the air filter housing must be lower or equal to the top of the carburetor vent tubes.
7. Any non-approved modifications may result in confiscation of entire engine assembly including but not limited to intake, starter, valve covers, rocker arms, springs, etc.
8. All crate engines must be located with the # 1 spark plug lining up to right side upper ball joint.
9. Rules may be adjusted as needed

Ford part # M-6007 D347SR engine

1. D347 SR engine will use only an approved Holley 2 barrel 450 cfm Carburetor. Refer to Holley 350 cfm 2300 and 2300HP in "Built Motor" section below for Carburetor rules and rework guidelines.

2. .750" thick maximum NASCAR LMSC approved aluminum spacer allowed between carburetor and intake manifold.
3. Engine must remain completely stock except for valve covers and oil pan. See Late Model Stock NASCAR rulebook for oil pan rules.
4. All crate engines must be located with the # 1 spark plug lining up to right side upper ball joint.
5. Crate motor technical specifications will be based on the 347 Series Ford Racing Tech Spec Manual.

Hickory little motor

1. Must be standard factory production engine.
2. Maximum cubic inch displacement: General Motors – 350 cubic inch plus maximum 0.060 inch overbore. Ford – 351 cubic inch plus maximum 0.050 overbore. Dodge- 360 cubic inch plus maximum 0.035 overbore.
3. OEM crankshaft only.
4. Stock stroke only.
5. No deburring or polishing of crankshaft.
6. Balancing only.
7. Stock, standard balancer only.
8. 600 gram piston/pin combo minimum.
9. 500 gram piston/pin add 50 lbs, 25 on each side.
10. 5.7 length rod Chevrolet, 6.0 length in Ford Chrysler.

11. Heads must be **stock standard production**. Chevrolet must be straight plug. Maximum valve size intake 2.02, exhaust 1.60. Ford/Chrysler same as LMSC.

12. No Titanium valves or parts

13. Heads minimum 62cc .

14. Intake Chevrolet Edelbrock #2101, #2116, or GM casting number 12464340.

15. Ford Windsor Edelbrock # M9424-C358

**16. Hickory little motor will use an approved Carburetor Holley HP80507-I 390 cfm stock out of the box w/ no spacer. Only changes allowed are the power valve, squirters, screw-in air bleeds and jets. Recommended that boosters be epoxied to carburetor body. Only Holley replacement parts allowed or the 450 2bbl w/ NASCAR legal spacer. Rework guidelines by 2020 LMSC Rulebook**

17. Cams may be solid or hydraulic but must have a maximum valve lift of no more than .475 measured at the valve retainer as engine was raced. No roller cams.

18. Roller rockers may be used. **Must be 1.5 ratio.**

19. Headers may be used. LMSC 2020 type only.

20. Exhaust pipes must be as LMSC 2020.

21. HEI or MSD ignition allowed. No magnetos.

22. 7 ¼" or 5 ½" clutch allowed. Steel flywheel only.

350/350 Crate Motor (PN# 88958602)

1. Engine must be stock out of the crate except for the following.

2. Valve covers may be changed.

3. Oil pan may be changed. Late Model Stock rules apply.

4. Carburetor Holley HP80507-I 390 cfm stock out of the box. Only changes allowed are the power valve, squirters, screw-in air bleeds and jets. Recommended that boosters be epoxied to carburetor body. Only Holley replacement parts allowed.

5. Spacer between the air cleaner base and the carburetor must be attached to the air cleaner and the highest part of the bottom of the air filter housing must be equal or lower to the top of the carburetor vent tubes.

6. 1 paper gasket only maximum thickness .065 each.

7. Offset air cleaner may be used for distributor clearance.

8. Stock vibration dampener only!

9. Any non-approved modifications will result in confiscation of entire motor including but not limited to intake, starter, valve covers, rocker arms, springs, etc.

10. Stock timing cover required.

11. Crate motor technical specifications will be based on the GM Performance Parts Circle Track Crate Engine Technical Manual part# 88958668 revised 2012.

#### HMS Enforcer (Harrington Spec)

HMS Enforcer engine will use only the Holley 2 barrel 450 cfm Carburetor. Refer to Holley 350 cfm 2300 and 2300HP in "Built Motor" section below for Carburetor rules and rework guidelines.

750" thick maximum NASCAR LMSC approved aluminum spacer allowed between carburetor and intake manifold. ☐

Engine must be located with the # 1 spark plug lining up to right side upper ball joint.

HMS Enforcer engine technical specifications will be based on the HMS Enforcer Technical Manual.

Any engine items not covered in HMS Enforcer Technical manual or Hickory Motor Speedway Track rules, refer to NASCAR Late Model Stock rulebook.

#### Late Model Stock Engine

1. Refer to LMSC (2019)

2. Late Model Stock engine will use either an approved Holley 2 barrel 450 cfm or 350 cfm Carburetor.

3. .750" thick maximum NASCAR LMSC approved aluminum spacer allowed between carburetor and intake manifold.

350 2300 CARBURETOR (from NASCAR LMSC Rulebook 2006)

The Holley 2300 two (2) barrel carburetor, list number 7448 and the Holley 2300 HP two (2) barrel carburetor, part number 80787-1, with a venturi size of 1-3/16 inches and maintaining a throttle bore maximum size of 1-1/2 inches (see B. below for Holley carburetor rework guidelines.) The Holley 2300 two (2) barrel carburetor, list number 7448 and the Holley 2300 HP two (2) barrel carburetor, part number 80787-1, are the only 350-CFM carburetors that will be permitted on all models. The venturis must maintain a round (circular) cross section. Only Holley replacement or service parts can be used in any carburetor rework. Carburetors and/or carburetor components machined from billet materials will not be permitted.

#### Holley 2300 and 2300 HP two (2) barrel Carburetor Rework Guidelines

Reshaping, polishing, grinding, or drilling of additional holes will not be permitted. The maximum size for the air bleed holes in the top of the carburetor body will be 0.080 inch for all four (4) holes. Screw in air bleed jets will not be permitted in the 2300 main body. Screw in air bleed jets will be permitted for the 2300 HP main body, but they must be epoxied in place. For the Holley 2300 HP main body, the amount of holes and passages must remain as manufactured. Additional and/or plugging holes or passages will not be permitted in the Holley

The choke may be removed, but all screw holes must be permanently sealed.

Choke horn must not be removed.

The booster type must not be changed. The Holley booster part number 45R-107-1, with the casting number 45R-107 and part number 45R-312R, with the casting number 45R-312 are the only boosters that will be permitted. The Holley casting numbers must remain legible on the top of all booster stems. Size or shape must not be altered. Height and location of the boosters must remain as manufactured. All boosters must maintain a minimum outside diameter of 0.616 inch. The addition of material will not be permitted to the boosters with the exception of a small amount of epoxy that may be used to assist in securing the booster stem to the main body of the carburetor.

The venturi area must not be altered or reshaped in any manner. The venturi must maintain a circular (round) cross section. The casting ring must not be removed. The location of the venturi must remain as produced by the manufacturer.

Alterations that, in the judgment of Track Officials, were made to allow additional air to be picked up below the opening of the venturi such as altered gaskets, base plates, and drilling holes into the carburetor will not be permitted.

The carburetor throttle body must be used as provided by the manufacturer. The positioning of the throttle bores in the carburetor throttle body must be the same as provided by the manufacturer. The throttle bores must be completely round. The throttle bores must be straight without taper from top to bottom. The throttle bores must remain perpendicular to the top and bottom of the carburetor throttle body. The throttle body (base plate) must not be altered in shape or size. All vacuum holes must be threaded and plugged. □ Stock throttle plates (butterflies) must not be thinned or tapered. Idle holes may be drilled in butterflies. Screw ends may be cut even with the shafts, but the screw heads must remain standard.

Throttle Shafts must remain stock and must not be thinned or cut in any manner.

Only Holley metering blocks can be used. Surfacing of the metering blocks for improved gasket seal will be permitted. The only metering blocks permitted for the Holley 2300 HP carburetor (80787-1) will be the Holley, part numbers 11938N, 11886 (390HP) and 12323 (screw in emulsion bleed jets) metering blocks. To order metering block part number 12323 (screw in emulsion bleed jets) the sales number is 134-276. For the Holley 2300 HP approved metering blocks, the amount of holes and passages and the location must remain as manufactured with screw in emulsion bleed jets in each jet passage, however, hole sizes may be altered in the jets. Blanks without holes may be used. Additional holes or passages will not be permitted in the Holley 2300 HP approved metering blocks. The Holley metering block, part number 12323 (screw in emulsion bleed jets) will not be permitted in the Holley 2300, list number 7448.

☒ The accelerator pump discharge nozzle must not be changed. The retaining screw must not be drilled for a discharge passage. ☒ Jets, Power Valve, and Float may be changed.

## NASCAR 2020 Rulebook Track Changes

### 20F - 2.2 Overall Car Weight

All weights are with driver before and after qualifying and the race. When cars are weighed after the race, the only additional fluids that may be added to make weight will be enough water to top off the radiator, maximum of 2 quarts of motor oil in the engine and enough racing fuel to top off fuel cell at base of filler neck at bottom of vent hose. - as specified in HMS Race Procedures

20F - 10.6 REAR AXLE – Refer to LMSC 2020 with the following exception.

1. 9" Ford may be used.

### 20F - 12.1 COIL SPRINGS / SPRING MOUNTS / JACKING BOLTS (SUSPENSION TRAVEL)

Bump Stops will be permitted. (Subject to HMS Track officials approval)

### 20F - 12.3 Shock Absorbers SHOCKS

1. Shocks will be controlled by a \$350.00 per shock claimer rule. Any competitor finishing within three (3) positions of the claimer may claim the shocks from that event. The claim must be made in writing within 20 minutes after the event accompanied by the cash. Anyone not allowing their shocks to be claimed will forfeit the purse and points for that event and may be fined.

2. Adjustable shocks allowed

### TIRES

1. Competitors will be required to purchase 5 used Hoosier F-45s mounted on Hickory Motor Speedway track wheels each week.

2. Competitors will be allowed to use their own wheels if the offset varies from track wheels. See wheel rules above.

3. No tire treatment of any kind permitted.

4. Competitors that bend a wheel beyond what Hickory Motor Speedway Officials deem repairable will be required to purchase that wheel for \$75.00 which includes sales tax.

5. See general rules.

#### SAFETY REQUIREMENTS

1. At all times during an event (practice, qualifying, and competition), drivers should connect their helmet to a Track approved head-and-neck restraint device/system. The head-and-neck restraint device/system when connected, should be configured, maintained, and used in accordance with the manufacturer's instructions.

2. IT IS THE RESPONSIBILITY FOR THE DRIVER, NOT TRACK OFFICIALS OR THE PROMOTER, TO INSURE THAT HIS/HER DEVICE/SYSTEM IS TRACK APPROVED, CORRECTLY INSTALLED, MAINTAINED, AND PROPERLY USED.

3. The following are the currently TRACK approved Head and Neck Restraint Devices/Systems: HANS Device, Hutchens Device

4. ANY ITEMS NOT COVERED IN THE ABOVE RULES WILL BE AT OFFICIALS' DISCRETION.