

## UMSS Traditional Series – 5.3L LS Engine

To the signee of this form;

The engine you are certifying is being certified for use in a UMSS Traditional Sprint Car. The UMSS has created a sealed engine program that allows the signee of this form to certify and seal an engine for use in a UMSS Traditional Sprint Car. By filling out and signing this form, you, as the signee of this form, are certifying the engine complies with the specifications outlined in this checklist. If an engine you have certified and sealed is later found to be illegal, any driver using the engine you certified will face fines and a suspension as published in the UMSS rule book.

Please contact David L. Anderson at [anderson@sherbtl.net](mailto:anderson@sherbtl.net) if you have any questions on the engine certifying process.

David L. Anderson  
UMSS Tech



## UMSS 5.3L LS Engine Certification Checklist v. 1.0

### SIGNEE INFORMATION

|                   |  |
|-------------------|--|
| Name:             |  |
| Address:          |  |
| Telephone number: |  |

### CHECKLIST

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                  |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| <input type="checkbox"/> | <b>Cubic Inches</b> <ul style="list-style-type: none"><li>UMSS legal engines<ul style="list-style-type: none"><li>Factory production iron 5.3 LS blocks only</li><li>3.78" bore + .060" maximum overbore</li><li>3.622" stroke</li></ul></li></ul>                                                                                                                                                                                          | Bore _____<br>Stroke _____       |
| <input type="checkbox"/> | <b>Compression Ratio</b> <ul style="list-style-type: none"><li>Maximum compression ratio allowed is 9.5:1</li></ul>                                                                                                                                                                                                                                                                                                                         | Compression ratio _____          |
| <input type="checkbox"/> | <b>Block</b> <ul style="list-style-type: none"><li>Factory production iron 5.3 LS blocks only</li><li>No bow-tie or aftermarket blocks allowed</li><li>No lightening allowed. All stock mounts must remain</li><li>No oversize or roller cam bearings allowed</li></ul>                                                                                                                                                                     | Block casting number _____       |
| <input type="checkbox"/> | <b>Crankshaft</b> <ul style="list-style-type: none"><li>A stock OEM Chevrolet 3.622" stroke 5.3 LS crankshaft is the only crankshaft allowed</li><li>Lightening, knife edging, or polishing of the crankshaft throws is not allowed</li><li>The crankshaft flange may be machined to fit the rear motor plate and torque ball housing</li><li>Crankshaft balancing is allowed</li><li>24 and 58 tooth reluctor wheels are allowed</li></ul> | Crankshaft casting number _____  |
| <input type="checkbox"/> | <b>Connecting Rods</b> <ul style="list-style-type: none"><li>The Chevrolet OEM powdered metal 6.098" connecting rod is the only connecting rod allowed</li><li>No grinding or polishing of the rod beams</li><li>Balancing is allowed</li><li>Aftermarket rod bolts are allowed</li><li>The small end of the rod may be bushed for a floating pin</li></ul>                                                                                 | Rod casting number _____         |
| <input type="checkbox"/> | <b>Camshaft</b> <ul style="list-style-type: none"><li>Hydraulic camshafts only</li><li>The camshaft may be drilled for a rear spud</li><li>.600" maximum lift at the valve</li></ul>                                                                                                                                                                                                                                                        | Camshaft lift at the valve _____ |

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                    |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| <input type="checkbox"/> | <b>Camshaft lifters</b> <ul style="list-style-type: none"> <li>• Stock OEM lifters with a GM part number are the only lifters allowed</li> <li>• The lifter must have a minimum of .100" travel</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                         |                                    |
| <input type="checkbox"/> | <b>Timing set</b> <ul style="list-style-type: none"> <li>• Timing chains only</li> <li>• No timing belts or gears allowed</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |
| <input type="checkbox"/> | <b>Cylinder Head</b> <ul style="list-style-type: none"> <li>• Factory Chevrolet aluminum heads only</li> <li>• Casting number 862 or 706 are the only heads allowed</li> <li>• Valves; <ul style="list-style-type: none"> <li>○ 1.89" intake valve</li> <li>○ 1.55" exhaust valve</li> <li>○ Stock valve length</li> <li>○ Stock .313" valve stem diameter</li> </ul> </li> <li>• Porting or polishing is not allowed</li> <li>• Angle milling is not allowed</li> <li>• Machining of any valve throat material ¼" below the top of the valve seat is not allowed</li> <li>• Single beehive spring only</li> </ul> | Cylinder head casting number _____ |
| <input type="checkbox"/> | <b>Rocker arm and pushrod</b> <ul style="list-style-type: none"> <li>• Stock or stock replacement rocker arms only</li> <li>• Roller tipped rocker arms are not allowed</li> <li>• Rocker arm trunions may be upgraded for more lift if required</li> <li>• 5/16" stock or stock replacement pushrods only</li> </ul>                                                                                                                                                                                                                                                                                              |                                    |
| <input type="checkbox"/> | <b>Intake manifold</b> <ul style="list-style-type: none"> <li>• The Edelbrock Victor Jr, PN 29087, is the only intake manifold allowed</li> <li>• Porting, polishing, or gasket matching is not allowed</li> <li>• Altering the intake manifold floor is not allowed</li> </ul>                                                                                                                                                                                                                                                                                                                                    | Intake manifold part number _____  |
| <input type="checkbox"/> | <b>Ignition</b> <ul style="list-style-type: none"> <li>• Stock or stock replacement coil packs only. No performance coil packs are allowed</li> <li>• Stock firing order only</li> <li>• Maximum timing is 32 degrees at 5500 RPM's</li> </ul>                                                                                                                                                                                                                                                                                                                                                                     | Timing at 5500 RPM's _____         |
| <input type="checkbox"/> | <b>General rules;</b> <ul style="list-style-type: none"> <li>• Titanium parts are not allowed</li> <li>• If the rulebook does not state it is legal, it probably isn't</li> <li>• UMSS tech will determine what is, and what is not legal</li> </ul>                                                                                                                                                                                                                                                                                                                                                               |                                    |

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                       |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <b>Sealing procedure</b> <ul style="list-style-type: none"> <li>• After the engine has been 100% certified, the intake manifold, driver's side cylinder head, and timing cover must be sealed with UMSS supplied seals</li> <li>• Seal serial numbers must be recorded</li> <li>• The intake manifold will be sealed with a UMSS seal using the front two bolts located on the driver's side of the intake manifold</li> <li>• The driver's side cylinder head will be sealed with a UMSS seal using the lower, 2<sup>nd</sup> and 3<sup>rd</sup> bolt from the front of the cylinder head</li> <li>• The timing cover will be sealed with a UMSS seal using two bolts located approximately at the top center position on the timing cover</li> <li>• Seals are to be installed in such a manner as to not loosen the sealed bolts over time</li> <li>• Seals are to be installed in such a manner as to not allow seal tampering</li> <li>• Contact David L. Anderson at anderson@sherbte.net if you have any questions on seal placement</li> </ul> | Intake seal serial number _____<br><br>Cyl head seal serial number _____<br><br>Timing cover seal serial number _____ |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|

By signing this document, you, as the signee of this form, are certifying the engine you sealed complies with the specifications outlined in this checklist. You further agree that knowingly providing false information on this document will expose the driver competing with the engine you certify to fines and a suspension as published in the UMSS rule book. The UMSS appreciates your integrity.

Name and title (printed) \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

Mail this form to;

David L. Anderson  
PO Box 171  
Elk River, Mn 55330