

NSSR Handbook for Passenger 2W(s)

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Performance Analysis, Information, Components and Systems for NSSR-RS

(ARAI's review of this section is very important for this mission of road safety)

Performance Analysis

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

Road Safety Checklist

[] **Protection in normal driving or in an accident (Vehicle ability to withstand Higher shock loads?)**

Condition: Ok/ Needs crash safety planning/Needs maintenance/Needs repair/Needs replacement

[] **Protection in normal driving or in an accident (Visibility related to the – Attention span related Eye position of driver, angle of visibility, spacing for seating, need for rearward visibility?)**

Condition: Ok/ Needs crash safety planning/Needs maintenance/Needs repair/Needs replacement

[] **Protection in an accident (Effect of Collision on the – Front, Rear, sides, sudden tilt, impacted roll over)**

Condition: Ok/ Needs crash safety planning/Needs maintenance/Needs repair/Needs replacement

Performance Analysis

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

Road Safety Checklist

☐ **Protection in driving or collision (There should be no items coming loose)**

Condition: Ok/ Needs crash safety planning/Needs maintenance/Needs repair/Needs replacement

☐ **Protection in accident (Hertomatic Flashers and beepers – ignition automatically turning off)**

Condition: Ok/ Needs crash safety planning/Needs maintenance/Needs repair/Needs replacement

☐ **Whether relevant Fire wall separating engine compartment and driver compartment has been incorporated?**

Condition: Ok/ Needs crash safety planning/Needs maintenance/Needs repair/Needs replacement

Performance Analysis

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

Road Safety / Fitness Checklist

[] Whether braking system works effectively (for limit of road grip, manoeuvrability, vehicle speed for type of track surface, produces brake pedal pulsations in difficult track conditions)?

Condition: Ok/ Needs crash safety planning/Needs maintenance/Needs repair/Needs replacement

[] Guidelines for possible Engine noises

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

[] Guidelines for possible Crank noises

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

Performance Analysis

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

Road Safety / Fitness Checklist

[] Guidelines for possible **Piston noises**

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

[] Guidelines for possible **Valve Train noises**

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

[] Guidelines for possible **pre-ignition problems**

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

[] Guidelines and **Causes for the Engine to not crank or fully start**

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

Performance Analysis

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

Road Safety / Fitness Checklist

[] Guidelines for the Engine to crank slowly but does not start

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

[] Guidelines for what can cause Excessive smoke (Black)

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

[] Guidelines for what can cause Excessive smoke (Blue)

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

[] Guidelines for what can cause Excessive smoke (White)

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

Performance Analysis

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

Road Safety / Fitness Checklist

[] Guidelines for what causes the Loss of coolant

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

[] Guidelines for Oil pressure problems (No reading)

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

[] Guidelines for Oil pressure problems (low pressure reading)

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

[] Guidelines for Oil pressure problems (high pressure reading)

Condition: Known/ Needs review/Needs maintenance/Needs repair/Needs replacement

Performance Analysis

1. Guidelines for possible Engine noises

Tap sound

Rattle sound

Light knocking

Deep knocking

Irregular heavy knocking

Rumble noise

Slapping noise

Vibrating sounds

Clatter noise

Hiss sound

Roar sound

Clunking sound

Whining sound

Shrieking sound

Squealing

Snapping sound on engine overhauling

Starved sound with high speed acceleration noise on starting - Timing belt problems

Source or Cause possibly

Improper adjustment of Valve clearance

Loose or broken components like piston rings

Small end bearings worn out

Big end bearings worn out

Loose fly wheel

Main bearings worn out

Worn out piston or bores

Loose fittings of components

Broken rocker shaft or broken piston rings

Leak from inlet or exhaust manifolds or connections

Air filter malfunctioning noise, Air filter failure

Loose fly wheel, worn out thrust bearing, loose damper pulley

Malfunction in power steering or alternate bearings

Dry bearings in ancillary components

Slipping drive belt

Tight fitting of piston rings

2. Guidelines for possible Crank noises

Source or Cause possibly

Excessive clearance in main bearings

Main journals out of alignment

Excessive axial play in crank shaft

Low oil pressure

Unbalanced crank shaft

Loose fly wheel

Loose fitting of main journals and main bearing caps

Improper seating of thrust bearings

Loose damper pulley

Excessive play in main journal bearings

Timing belt problems

3. Guidelines for possible Piston noises (sharp noises while at idling speed)

Source or Cause possibly

Excessive side clearance

Loose fitting in small end bearing

Bent connecting rod

More clearance between piston pin and boss

Performance Analysis

4. Guidelines for possible Valve Train Noise

Source or Cause possibly

- Improper adjustment of valve clearance
- Bent push rod
- Worn out rocker arm and valve tip
- Warped valve
- Carbonized or scored valve stems
- Excessive clearance between valve stem and valve guide
- Worn out or broken valve spring
- Improper valve timing
- Worn out cam lobes
- Broken or damaged valve lifter
- Loose fitting of adjustment screw and nut for valve tappet clearance

5. Guidelines for Pre-ignition problems (deposits in combustion chambers and/or on spark plugs)

Experience - poor acceleration, engine roughness and reduced top speed Source or Cause possibly

- Clogging of carburettor jets
- Improper idling
- Loose fitting of spark plugs
- Improved driving / Maintaining constant speed when possible

6. Guidelines for Causes for the Engine to not crank or fully start

Source or Cause possibly

- Defective starting motor
- Defective battery
- Loose connection of battery wire and starting motor wire
- Fly wheel problem needing servicing
- Worn out teeth of fly wheel
- Slow running of armature shaft
- Timing belt problems

7. Guidelines for the Causes for the Engine to crank slowly but does not start

Source or Cause possibly

- Defective fuel pump
- Fuel line blocked
- Fuel filter blocked
- Defective Fuel pump
- Air lock or air may be present in fuel line
- Less Fuel in tank
- Air cleaner blocked
- Defective fuel injector
- Worn out valves and springs in pump
- What can cause Over heating of engine Source or Cause possibly
- Loose fan belt
- Radiator blocked or surface area reduction
- Radiator tubes blocked
- Improper opening of thermostat valve
- Hose pipes blocked
- Coolant pump malfunctioning
- Coolant jackets and hoses may be clogged
- Head gasket seating improper
- Coolant level low
- Leakage of coolant from radiator
- Early or late ignition problem
- Clutch slipping
- Brake jamming or drag
- Tight wheel bearings

Performance Analysis

8. Guidelines for what can cause Excessive smoke (Black)

Source or Cause possibly

- Choked Air filter
- Fuel injection pump not properly calibrated
- Defective injector
- Defective governor diaphragm
- Incorrect valve clearance
- Poor compression

9. Guidelines for what can cause Excessive smoke (Blue)

Source or Cause possibly

- Sticky or broken piston rings
- Worn out cylinder bores
- Weak compression
- Oil level in oil sump not proper
- Mixing of lubricating oil with fuel
- Improper grade engine oil
- Improper grade lubricating oil

10. Guidelines for what can cause Excessive smoke (White)

Source or Cause possibly

- Defective valve seating
- Fuel injection pump not properly calibrated
- Delay between injection and combustion of fuel
- More unburnt fuel
- Low operating temperature

11. Guidelines for what causes the Loss of coolant

Source or Cause possibly

- Radiator leakage
- Hose pipe leakage
- Loose drain plug or drain plug leakage
- Oil seal damaged for pump
- Leaky or faulty head gasket
- Damaged or cracked pump casing
- Improper or Loose or damaged thermostat or valve packing
- Faulty or missing radiator cap
- Crack in cylinder block
- Engine overheating

12. Guidelines for Oil pressure problems (No reading)

Source or Cause possibly

- No oil in sump or reservoir
- Oil gauge not functioning properly
- Faulty oil pump
- Faulty valve or valve spring
- Loose connection or Faulty pressure gauge
- Leakage of oil

13. Guidelines for Oil pressure problems (low pressure reading)

Source or Cause possibly

- Less oil in sump or reservoir
- Oil Filter clogged
- Faulty or worn out oil pump
- Faulty or broken valve spring
- Faulty or slack main bearings
- Leakage of oil

Performance Analysis

14. Guidelines for Oil pressure problems (high pressure reading)

Source or Cause possibly

Oil lines clogged
Faulty or broken valve
Faulty or defective pressure gauge
High viscosity or improper grade oil

Fuel consumption checklist for a driver or owner (mileage and emission level influencer)

Date of response:

Time of response:

Do you idle your engine on a cold-start: Yes/No/Sometimes/Not applicable

Do you ensure your engine's idling speed is right or get this addressed whenever you can: Yes/No/Sometimes/Not applicable

Do you switch off your engine whenever not required or at halt times more than 1 minute: Yes/No/Sometimes/Not applicable

Do you address problems like engine overheating as soon as you can: Yes/No/Sometimes/Not applicable

Do you avoid changing gears often by speed control or by choosing right routes and lanes: Yes/No/Sometimes/Not applicable

Do you immediately address any problem with the flow of fuel or the functioning of the carburetor in your vehicle as soon as you can: Yes/No/Sometimes/Not applicable

Do you avoid using or switch off your vehicle's air-conditioner whenever you can: Yes/No/Sometimes/ Not applicable

Do you ask for recommendations from your service outlet for maintenance of good condition and mileage: Yes/No/Sometimes/Not applicable

Performance Analysis

Green your Trip planner (comfort levels influencer)

Date of response:

Time of response:

Do you use the best route option mostly: Yes/No/Sometimes/Not applicable

Do you use route forecasting options mostly: Yes/No/Sometimes/Not applicable

While planning a long-distance visit (within your city or town or region), do you plan according to weather forecasts, optimum distance, manageable stress levels, traffic volume levels and need for value-added services on-route: Yes/No/Sometimes/Not applicable

While planning a long-distance visit (outside your city, town or region), do you plan according to weather forecasts, best routes, comfort levels, minimal accidents or incidence trends, possible route diversions, availability of alternate transportation services, availability of emergency response services and need for other value-added services on-route: Yes/No/Sometimes/Not applicable

Would you like the search and navigate information services available today for commuting to be enhanced further, to interface with sentinel services at specific locations that can let you know beforehand occurrences or near probable occurrences of natural disasters, calamities, navigation problems, vital network and signal coverage failures, commuting hardships, and of any critical incidence management on-route: Yes/No/Sometimes/Not applicable

Would you like to know about any alpha assistance for impaired people in commuting: Yes/No/Not applicable

Performance Analysis

First-Aid services (health and safety influencer)

Date of response:

Time of response:

Does your vehicle have a first-aid kit compartment and are there provisions to maintain the same based on the medical history of your commuters or occupants: Yes/No/Sometimes/Not applicable



Does your vehicle manufacturer proactively setup a service network that can provide emergency services or breakdown services within the shortest time durations: Yes/No/Cannot comment/Not applicable

Is your vehicle fitted with a suitable Global Positioning System (GPS) that can help such a service network track the location of vehicle and provide emergency or breakdown services within the shortest time durations: Yes/No/Cannot comment/Not applicable

Performance Analysis

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

Performance Tuning List (ICE)

☐ **Engine sound and running check**

Condition; Ok/ Needs tuning/Needs maintenance/Needs repair/Needs replacement

☐ **Exhaust smoke check**

Condition; Ok/ Needs tuning/Needs maintenance/Needs repair/Needs replacement

☐ **Oil leak while idling or while running check**

Condition; Ok/ Needs tuning/Needs maintenance/Needs repair/Needs replacement

Performance Analysis

Performance Tuning List (ICE)

[] **Noise conditions check (engine accessories, gears, bearings, suspension, drive line, tyres)**

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] **Vibrations check (constant velocity joints, drive shafts, transmission mountings, suspension components, wheel bearings, brakes)**

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] **On-road check at normal driving speeds / high speeds (Acceleration or deceleration, lack of power output, excessive oil consumption, excessive fuel consumption, noise and vibration at turning, engine rpm thresholds)**

Condition; Ok/Problematic but will function/Needs top-up or refilling/Needs replacement

Performance Analysis

Performance Tuning List (ICE)

- ☐ Test Drive **Safety check at normal driving speeds / high speeds (Acceleration or deceleration, lack of power output, excessive oil consumption, excessive fuel consumption, noise and vibration at turning, engine rpm thresholds)**

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

Specific to (Lack of power output)

- ☐ Low compression

Remedy: Overhaul engine/Replace parts as necessary

- ☐ Late ignition timing

Remedy: Adjust ignition timing and check engine running

- ☐ Improper functioning of carburetor and fuel pump

Remedy: Service carburetor or fuel pump properly and check engine running

Performance Analysis

Performance Tuning List (ICE) - Specific to (Lack of power output)

☐ Air cleaner clogged or blocked

Remedy: Clean or clear clogs/Replace if necessary

☐ Fuel lining clogged or blocked

Remedy: Clear clogged lines/Replace if necessary

☐ Engine temperature high

Remedy: Service cooling system/Replace as necessary

☐ Improper tappet clearance

Remedy: Adjust tappet clearance as in specification or as required/Replace parts as necessary

☐ Faulty valve timing or late valve timing

Remedy: Service valve/Adjust valve timing/Replace parts as necessary

Performance Analysis

Performance Tuning List (ICE)- Specific to (Lack of power output)

☐ Leaky gasket

Remedy: Replace gasket

☐ Muffler clogged or bent exhaust pipe

Remedy: Clean the muffler/straighten the exhaust pipe/Replace parts as necessary

Performance Analysis

Performance Tuning List (ICE) - Specific to (Excessive fuel consumption in ICE models)

[] Idling may be incorrect

Remedy: Adjust idling speed and check engine running

[] Air filter choked

Remedy: Clean properly/ Filament replacement

[] Clogged air bleeds and jets in carburettor

Remedy: Service carburettor properly/ Replace as necessary

[] Dysfunction of needle valve in carburettor

Remedy: Clean valve properly/ Replace as necessary

Performance Analysis

Performance Tuning List (ICE) - Specific to (Excessive fuel consumption in ICE models)

☐ Clutch lever linkage improperly adjusted

Remedy: Adjust properly

☐ Float punctured or damaged

Remedy: Replace float

☐ Float level improperly adjusted

Remedy: Adjust properly

☐ Fuel pump pressure too high

Remedy: Adjust properly by placing packing in seating

☐ Metering rod improper adjustment or worn out

Remedy: Adjust properly/ Replace as necessary

Performance Analysis

Performance Tuning List (ICE)- Specific to (Excessive oil consumption)

☐ Improper grade of oil used

Remedy: Use oil of standard quality and grade

☐ Leakage from oil sump/drain plug/crank case seating/joint packing/oil filter seating or packing

Remedy: Tighten properly/Needs repair/Needs replacement

☐ Leakage of oil from combustion chamber due to worn out piston rings or cylinder walls

Remedy: Overhauling/ Needs piston ring replacement

☐ Leakage from fuel pump seating, gear cover

Remedy: Tighten properly/ Replace packing

☐ Check holes of ring slots

Remedy: Remove pistons and piston rings & clean properly/ Replace as necessary

Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

Maintenance, Repair and Tuning List (ICE)

[] Abnormal noise check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair and Tuning List (ICE)

[] Air filter check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Battery electrolyte level check

Condition; Ok/Problematic but will function/Needs top-up or refilling/Needs replacement

[] Blinkers, bulbs and head lamps check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Bolts and Nuts tightening check (engine specific)

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair and Tuning List (ICE)

[] Bolts and Nuts tightening check (front and rear shock absorbers)

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Bolts and Nuts tightening check (front and rear tyres)

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Brake fluid level check

Condition; Ok/Problematic but will function/Needs top-up or refilling/Needs replacement

[] Brake disc condition check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

☐ vehicle needs to be pulled off the road

☐ vehicle needs cost effective repairs to be on-road

Maintenance, Repair and Tuning List (ICE)

☐ Brake drum and lining check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Brake liners or pads check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Carburettor check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

☐ vehicle needs to be pulled off the road

☐ vehicle needs cost effective repairs to be on-road

Maintenance, Repair and Tuning List (ICE)

☐ Chassis or body condition check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Clutch Pedal Play

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Coolant level check

Condition; Ok/Problematic but will function/Needs top-up or refilling/Needs replacement

☐ Differential oil check

Condition; Ok/Problematic but will function/Needs top-up or refilling/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair and Tuning List (ICE)

[] Drive belts tension check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Drive shafts check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Engine oil level check

Condition; Ok/Problematic but will function/Needs top-up or refilling/Needs replacement

[] Entire electricity cables and connections check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair and Tuning List

[] Exhaust system check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Fuel Lines Pipes Leakage check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Fuse box and fuses check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Gear Box oil check

Condition; Ok/Problematic but will function/Needs top-up or refilling/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

☐ vehicle needs to be pulled off the road

☐ vehicle needs cost effective repairs to be on-road

Maintenance, Repair and Tuning List (ICE)

☐ Hoses, clamps and pipes check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Idling and proper acceleration check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Lubrication chart check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Power steering oil check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

☐ vehicle needs to be pulled off the road

☐ vehicle needs cost effective repairs to be on-road

Maintenance, Repair and Tuning List (ICE)

☐ Seat and seat bolts check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Steering mechanism and play check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Suspension front and rear check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Tappet or Valve Lifter clearance check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair and Tuning List (ICE)

[] Transmission oil check

Condition; Ok/Problematic but will function/Needs top-up or refilling/Needs replacement

[] Front Wheel and Rear Wheel axle check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Tyre condition check (rotate if necessary)

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Tyre pressure check

Condition; Ok/Problematic but will function/Needs refilling/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair and Tuning List (ICE)

[] Cranking/engine sound check while being started (rotate if necessary)

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Universal joints and slip joints check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Vehicle pulling, Front wheel / Rear wheel wobbling check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Alignment and balancing check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

☐ vehicle needs to be pulled off the road

☐ vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (EV/Hybrid)

☐ Battery Check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Brakes / Regenerative Brakes Check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Electric Propulsion System Check / Motor Drives Check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Switched Reluctance Motor Drives/Induction Motor Drives/Gearing/ Differential Check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Power Flow Control / Vehicle Control Unit

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (EV/Hybrid)

[] EV Chargers

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] EV Subsystems

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Accelerator Check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Steering Handle Check

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement



Anti lock Braking System (ABS) - Performance, Information, Components and Systems for NSSR-RS

ABS Performance

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

ABS Vehicle Experience

- ☐ **ABS helps safe and effective braking**
- ☐ **ABS improves control over steering during braking**
- ☐ **ABS improves control over vehicle during cornering**
- ☐ **ABS improves tyre life**
- ☐ **ABS reduces fuel consumption**

ABS Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

[] ABS Control Module / ABS Hydraulic Modulator

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ABS Relay

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ABS Hydraulic Actuator

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ABS Warning Light

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

ABS Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

[] ABS Front Wheel Sensors

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ABS Rear Wheel Sensors

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ABS Stop Light Switch

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ABS self-test output

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement



The NSSR-RS programme expects to collect unit specific

- ☐ Feedback
- ☐ Complaints
- ☐ Tickets

from senders of the printed pull-out forms that are duly filled, scanned as e-documents and sent via Whatsapp or Email to the mentioned mobile numbers and ID(s) which will be shared soon



Advanced Rider Assistance Systems (ARAS) –

Performance, Information,
Components and Systems
for NSSR-RS

ARAS Performance

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

ARAS Vehicle Experience

- [] ARAS improves safety and enhances rider assistance
- [] ARAS improves riding control in different situations
- [] ARAS enables alerts for Blind spot detection (BSD)
- [] ARAS enables Lane change assistance (LCA) at higher relative speeds
- [] ARAS enables high frequency hazard lights for Rear end collision warning (RCW)
- [] ARAS delivers effective Forward collision warning (FCW)
- [] ARAS enables comfortable, safe distance riding and Adaptive Cruise Control (ACC)

ARAS Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

[] ARAS Front RADAR

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ARAS Rear RADAR

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ARAS Hazards Lights

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ARAS Warning Systems / Lane Departure Warning

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

ARAS Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

[] ARAS Vehicle Speed Sensors

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ARAS Throttle Control

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] ARAS Cameras

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Emergency Brake Assist

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

ARAS Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

[] Engine Control Unit (ECU)

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Inertial Measurement Unit (IMU)

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Motorcycle Stability Control (MSC)

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Anti-lock Braking System (ABS) / Cornering ABS

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement



The NSSR-RS programme expects to collect unit specific

- ☐ Feedback
- ☐ Complaints
- ☐ Tickets

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Emergency Braking Assist –

Performance, Information,
Components and Systems for
NSSR-RS

EBA Performance

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

EBA Vehicle Experience

- ☐ EBA improves safety and control in driving
- ☐ EBA assists braking on collision risk
- ☐ EBA improves safety in sudden and forceful braking
- ☐ EBA reduces stopping distance
- ☐ EBA works effectively in cross traffic situations
- ☐ EBA assists and improves pedestrian safety

EBA Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

[] EBA RADARS

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] EBA Cameras

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Vehicle Speed Sensor

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] Electronically enabled Braking system/ Emergency Brake Lever

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

EBA Maintenance, Repair and Tuning

Guidelines for whether the

☐ vehicle needs to be pulled off the road

☐ vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

☐ Visible/Audible/Haptic Warning Systems

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ EBA Handle-bar Vibration System

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Front and Rear Cross Traffic System / Pedestrian Collision system

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ ECU / ABS

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement



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Automatic Headlamp-On (AHO) - Performance, Information, Components and Systems for NSSR-RS

AHO Performance

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

AHO Vehicle Experience

- ☐ AHO improves safety and visibility in driving
- ☐ AHO turns on automatically when the engine is started
- ☐ AHO turns off only when the engine stops
- ☐ AHO improves visibility at night, in rain, or in fog or in dusty conditions
- ☐ AHO improves rear view mirror visibility of 2 wheeler and its vehicle information
- ☐ AHO does not drain the battery when ON

AHO Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

[] AHO Illuminance Sensors

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] AHO Headlight Console integrated strip

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] AHO Control System/Functions

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] AHO Assembly

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

AHO Maintenance, Repair and Tuning

Guidelines for whether the

☐ vehicle needs to be pulled off the road

☐ vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

☐ High-beam button

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Low-beam button

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Pass switch

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

☐ Daytime Running Lights

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement



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Tyre Pressure Monitoring Systems (TPMS) - Performance, Information, Components and Systems for NSSR-RS

TPMS Performance

Guidelines for safety, driving, and vehicle fitness testing

Vehicle Reg No (as applicable):

Manufacturer:

Model:

Variant:

TPMS Vehicle Experience

☐ TPMS improves handling and stability in driving

☐ TPMS alerts when tyre pressure is low

☐ TPMS improves safety by reducing the wear of tyre or incidences of a blow-out / punctured tyre

☐ TPMS improves fuel efficiency

☐ TPMS reduces hydroplaning when an under-inflated tyre loses contact with the road surface in wet conditions

☐ TPMS ensures proper stopping distance

TPMS Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

[] TPMS Tyre Pressure Sensors

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] TPMS Warning System/Lamp

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] TPMS Transmission Link

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] TPMS Signal Processor

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

TPMS Maintenance, Repair and Tuning

Guidelines for whether the

[] vehicle needs to be pulled off the road

[] vehicle needs cost effective repairs to be on-road

Maintenance, Repair, and Tuning List (Electronic Vehicle Safety Systems)

[] TPMS Instrument Panel

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] TPMS Ignition on status

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] TPMS Signal Transmitter / Receiver

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement

[] TPMS Driver Reset

Condition; Ok/Problematic but will function/Needs maintenance/Needs repair/Needs replacement



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