MITSUBISHI MOTORS

SAFETY RECALL BULLETIN

SUBJECT:			No: **SR-20-003**
CROSSMEMBER CORROSION – SAFETY RECALL CAMPAIGN			DATE: **July 2020**
			MODEL: **SEE BELOW**
CIRCULATE TO:	[**X**] GENERAL MANAGER	[**X**] PARTS MANAGER	[**X**] TECHNICIAN
[**X**] SERVICE ADVISOR	[**X**] SERVICE MANAGER	[**X**] WARRANTY PROCESSOR	[**X**] SALES MANAGER

PURPOSE

This bulletin provides directions for inspection and repair of affected vehicles' Crossmembers.

BACKGROUND

The inside and outside surfaces of the Front Crossmembers used on certain vehicles, if exposed long term to snow melt water and anti-freezing agents, may corrode due to insufficient performance of the rust protection. Should significant corrosion occur over time, a lower control arm could eventually become detached resulting in loss of vehicle control and a potential collision.

AFFECTED VEHICLES

2008 – 2010 Lancer

2009 - 2010 Lancer Sportback

2008 -2013 Outlander

2011 – 2016 Outlander Sport/RVR

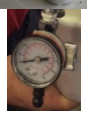
IMPORTANT

Affected new or used inventory vehicles must be repaired before the vehicle is delivered. Dealers must check their inventory vehicles' VINs on the Warranty Superscreen to verify whether the vehicle is involved in this recall campaign. It is a violation of Federal law for a dealer to deliver a new motor vehicle or any new or used item of motor vehicle equipment (including a tire) covered by the notification under a sale or lease until the defect or noncompliance is remedied.

Continued

REQUIRED TOOLS, EQUIPMENT AND MATERIALS

1. Obtain necessary tools, equipment and materials.

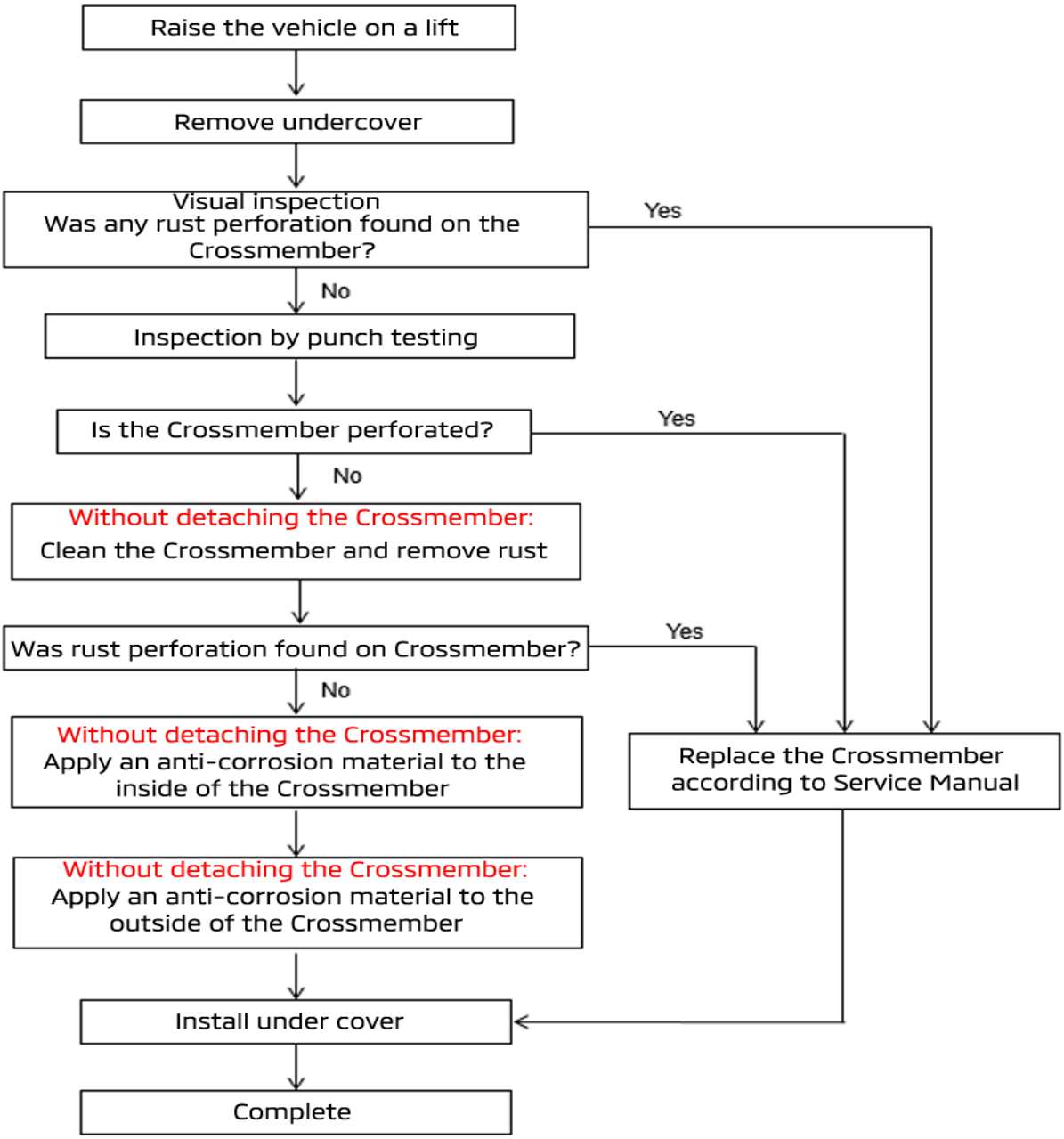
Picture	Name / Part number	Remark
	Corrugated Paper	For masking
	Universal Absorbent Pads	For masking and wiping off too much anti-corrosion agent
	Hammer, 1 Pound	
	Punch	
	Protective Gloves	
	Respirator	
	Safety Glasses	
	Scraper Flathead Screwdriver Wire Brush	For rust removal
	Air Coupler	
	Air Compressor	
	Air Gun	
	Spray Gun for Internal Application: MZ341023EX or WURTH type (HRS2)	Clean spray gun after using
	Air Regulator for use with: MZ341023EX or WURTH type (HRS2)	
	Anti-Corrosion Agent for Internal Application: MZ321015	1 liter – Target amount of usage: 5 vehicles per bottle
	Anti-Corrosion Agent for Internal Application: MZ341024EX	1 liter – Target amount of usage : 5 vehicles per bottle
	Anti-Corrosion Agent for External Application: MZ320800	0.48 liter – Target amount of usage: 5 vehicles per aerosol can

Use the reference chart below to identify what process you must follow depending on which Spray gun and which Anti-Corrosion agent you are using

ANTI-CORROSION AGENT **SPRAY GUN (below) used with =>**	**MZ341024EX**	**MZ321015**
MZ341023EX	Reference Page 11	Reference Page 14
WURTH Type (HRS2)	Reference Page 17	Reference Page 22

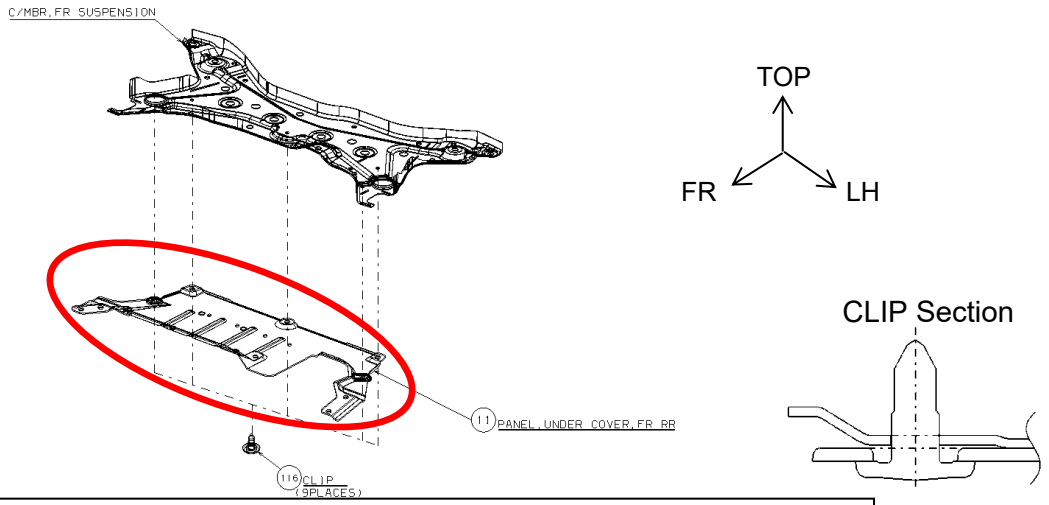
FLOW CHART

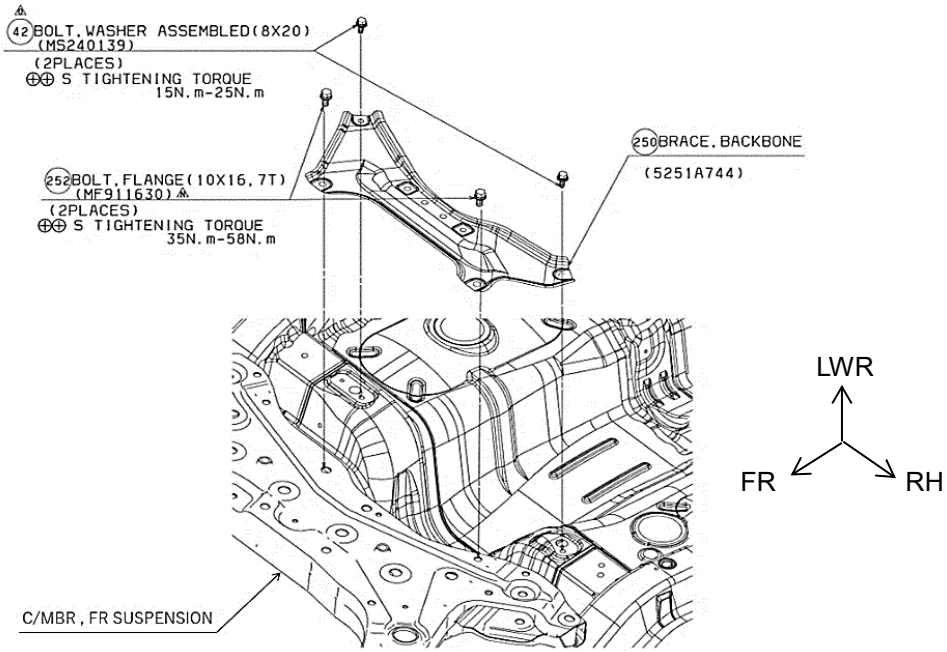
2. Review flow chart



INSPECTION PROCEDURE

1. Raise the vehicle on a lift.
2. Remove under cover clips and under cover.

<table>
<tr>
<td>・08-13MY Outlander (L4 Engine)
・11-16MY RVR
・08-10MY Lancer</td>
<td>


・5370A311 (PANEL,UNDER COVER,FR RR)
・5370B840 (PANEL,UNDER COVER,FR RR) : RVR 13-16MY ONLY
・MR328954 (CLIP)　5pcs
</td>
</tr>
<tr>
<td>・08-10MY Lancer(only)</td>
<td>
・Taking off Brace, Backbone


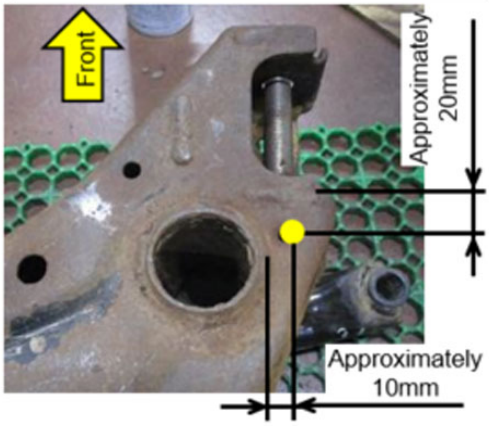
・5251A744 (BRACE,BACKBONE)
・MS240139 (BOLT,WASHER ASSEMBLED (8X20))　2pcs
・MF911630 (BOLT,FLANGE(10X16)AS-ROLLED)　2pcs
</td>
</tr>
</table>

3. Inspection by punch testing.
   a. Prepare punch and hammer.

   b. Put the punch on the points shown below and strike the punch 5 times with the hammer. The punching point is located approximately 20mm from the weld and outward approximately 10mm from the pipe on the left and right sides, as shown by the yellow dot below.
   c. If the Crossmember becomes perforated, replace the Crossmember.

NOTE: Crossmember removed from vehicle for illustration purposes.

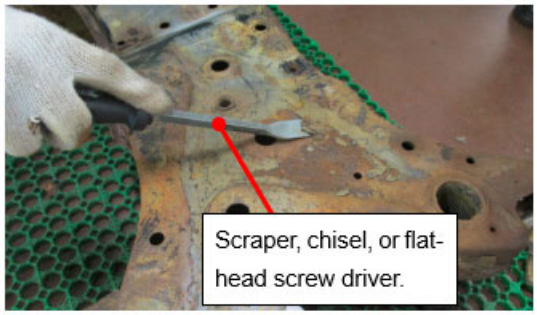
08-13MY Outlander (L4 Engine)
08-10MY Lancer / 11-16MY Outlander Sport RVR

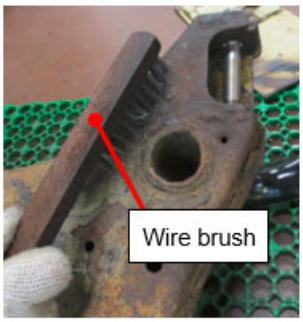


⚠ CAUTION **Wear safety glasses, respirator, and protective gloves when punching, removing rust and cleaning the Crossmember.**

4. Clean the Crossmember and remove rust without removing the Crossmember from the vehicle.
   a. Remove any dirt, mud and water from outside and inside of the Crossmember by using compressed air.
   b. Remove loose rust and rust scales from the external surface of the Crossmember by using a scraper, chisel, or flathead screw driver.
   c. Remove any remaining rust or dirt from the Crossmember by using a wire brush until the surface is smooth and clean.
   d. Visually inspect the Crossmember during the rust removal process. If rust perforation is found, proceed to the Crossmember replacement.

NOTE: Crossmember removed from vehicle for illustration purposes only, in the photos below.





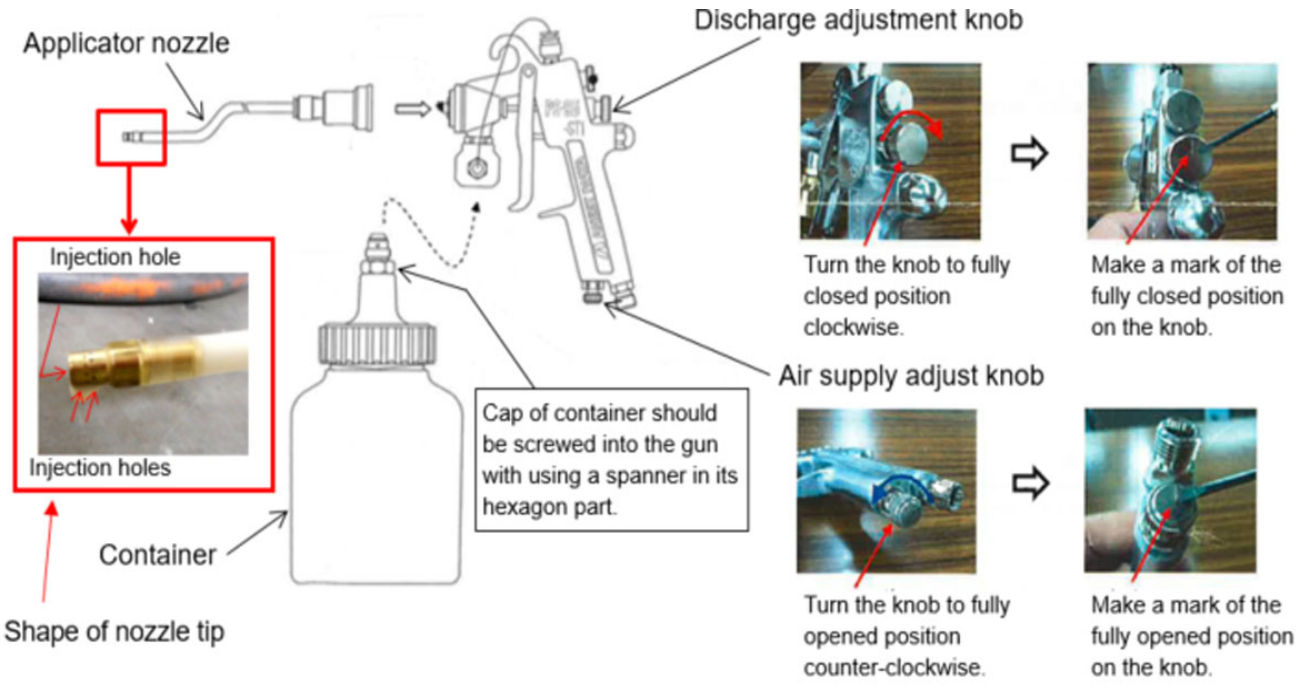
<Before rust removal>

<After rust removal>

Application of anti-corrosion agent to the inside of the Crossmember

Using/Preparing the MZ341023EX Spray Gun

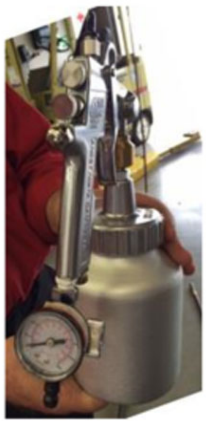
1. When using **MZ341023EX** spray gun**,** prepare for internal application, as follows:.
   a. Assemble the spray gun as illustrated below.
   b. Set zero-point of discharge and air adjustment knobs.
   c. Remove the cap of the container and fill the container with anti-corrosion agent. Attach the cap to the container.

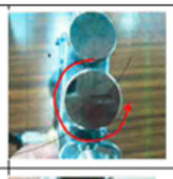
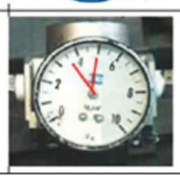


d. Attach the air regulator and hose to the gun.

e. Adjust the discharge and the air adjustment knobs.

f. Adjust the compressor air pressure.



Discharge adjustment knob		Open from fully closed position 1/2 turn (in summer) to 4 turns (in winter)
Air supply adjust knob		Close from fully opened position 1 turn
Compressor air pressure		51 PSI (350 KPa) (in summer) to 71 PSI (490 KPa) (in winter) Never exceed 71 PSI.

g. Test the spray gun by fully engaging the gun trigger to confirm anti-corrosion agent is injected from nozzle.

Using/Preparing the WURTH type Spray Gun

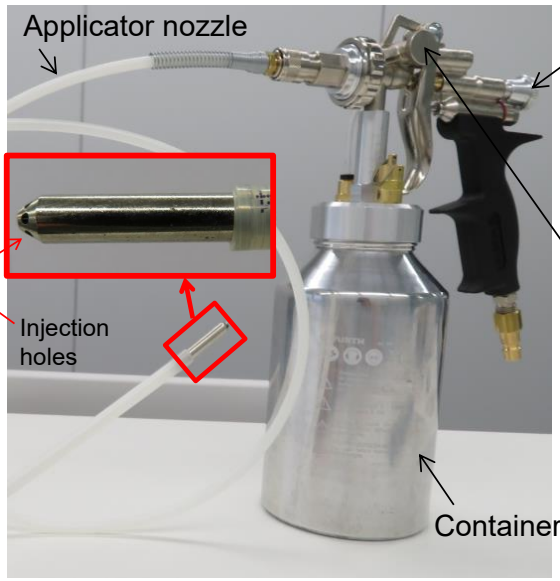
2. When using the **WURTH type** spray gun with **MZ321015 (Noxudol 700),** prepare for internal application, as follows:

   a. Assemble the spray gun as illustrated below.

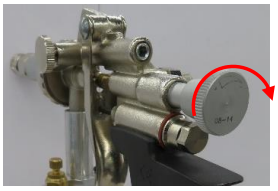
   b. Set zero-point of discharge and air supply adjustment knob.

a. Assembling of the spray gun.

b. Set zero-point of discharge and air supply adjust knob.

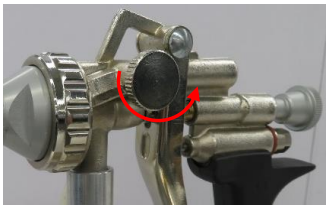


Discharge adjustment knob



Turn the knob to fully closed position clockwise.

Fineness adjustment knob

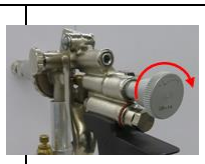
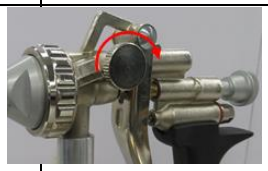


Turn the knob to fully closed position counter-clockwise.

   c. Remove the cap on the gun container and fill with anti-corrosion agent.

   d. Attach the air regulator and hose to the gun.

   e. Adjust the discharge and fineness adjustment knob.

Discharge adjustment knob		Open from fully closed position 1 turn.
Fineness adjustment knob		Open from fully closed position 2 and 1/4 turns.
Compressor air pressure		51 PSI (350 KPa) (in summer) to 71 PSI (490 KPa) (in winter) Never exceed 71 PSI.

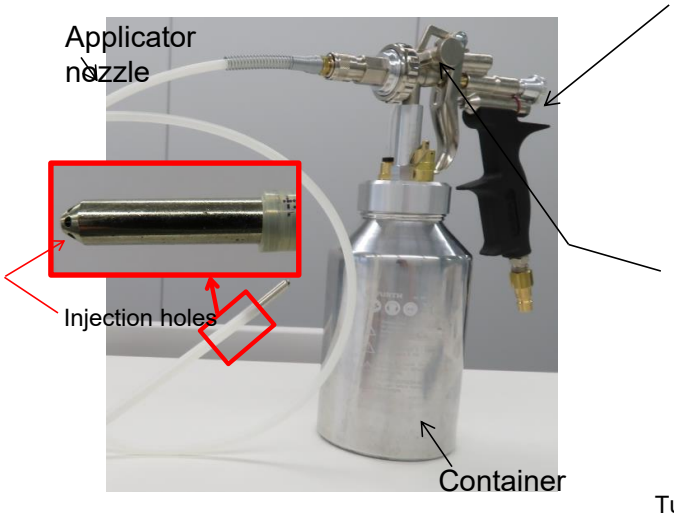
   f. Adjust compressor air pressure.

   g. Test the spray gun by fully engaging the gun trigger to confirm anti-corrosion agent is injected from nozzle.

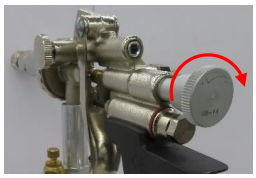
3. When using the **WURTH type** spray gun with **MZ341024EX,** prepare for internal application, as follows:

   a. Assemble the spray gun as illustrated below.

   b. Set zero-point of discharge and air supply adjustment knob.



Discharge adjustment knob



Turn the knob to fully closed position clockwise.

Fineness adjustment knob

Turn the knob to fully closed position counter-clockwise.

   c. Remove the cap on the gun container and fill with anti-corrosion agent.

   d. Attach the air regulator and hose to the gun.

   e. Adjust the discharge and fineness adjustment knob.

Discharge adjustment knob		Open from fully closed position 1 turn.
Fineness adjustment knob		Open from fully closed position 1 turn.
Compressor air pressure		51 PSI (350 KPa) (in summer) to 71 PSI (490 KPa) (in winter) Never exceed 71 PSI.

   f. Adjust compressor air pressure.

   g. Test the spray gun by fully engaging the gun trigger to confirm anti-corrosion agent is injected from nozzle.

⚠ **CAUTION** **Wear safety glasses when applying anti-corrosion agent.**

4. Anti-corrosion agent internal application should be completed without removing the Crossmember from the vehicle. According to the respective vehicle model, insert the nozzle into each hole as shown below.

Quick Reference chart for Spray Gun and Anti-Corrosion Agent

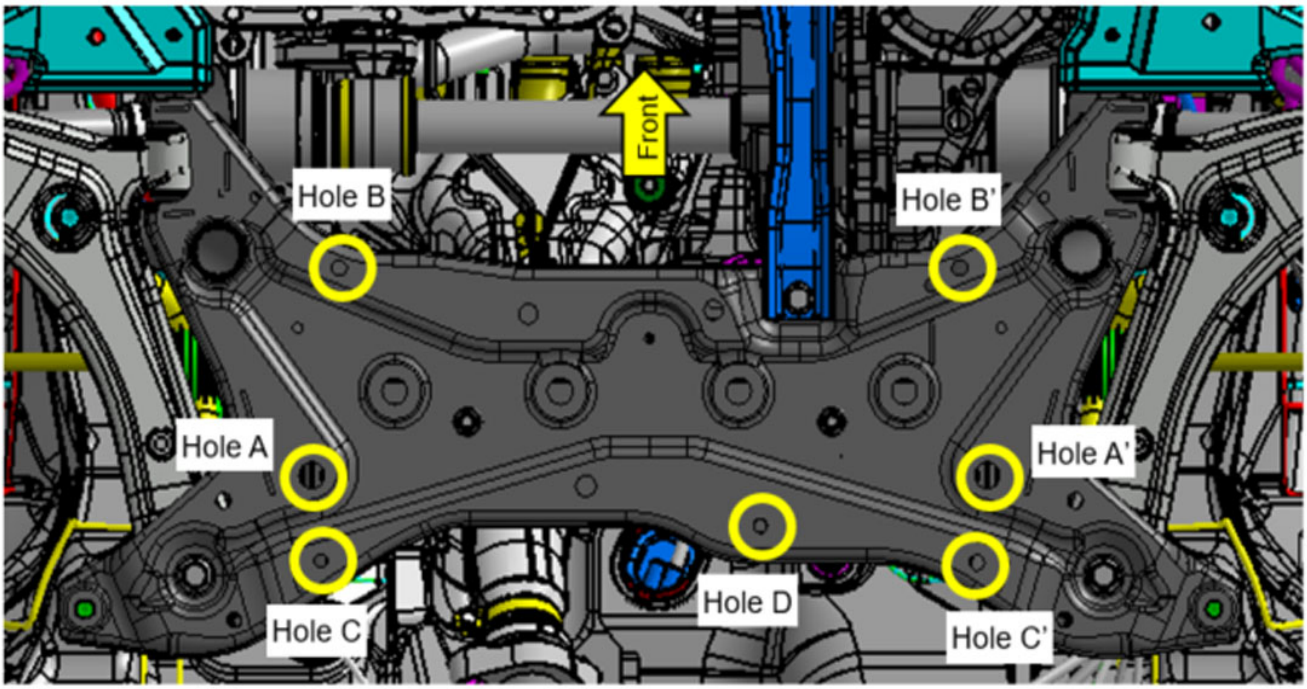
Remember the hole E and hole E' process when you use new type of spray gun (WURTH type).

<table>
<tr><td colspan="6">2008-13MY Outlander (L4 Engine), 2008-10MY Lancer , 2011-16MY RVR/Outlander Sport</td></tr>
<tr><td>Anti-Corrosion Agent</td><td></td><td>MZ341024EX
(NOX-RUST 712AM)</td><td>MZ321015
Noxudol 700</td><td>MZ341024EX
(NOX-RUST 712AM)</td><td>MZ321015
Noxudol 700</td></tr>
<tr><td>Spray Gun</td><td></td><td colspan="2">MZ341023EX</td><td colspan="2">WURTH type (HRS2)</td></tr>
<tr><td rowspan="5">Spray Gun Setting</td><td>Discharge adjustment knob</td><td colspan="2">½ turn (in summer)
to 4 turns (in winter)</td><td colspan="2" rowspan="2"></td></tr>
<tr><td>Air supply adjustment knob</td><td colspan="2">1 turn</td></tr>
<tr><td>Discharge adjustment knob</td><td colspan="2"></td><td colspan="2">1 turn</td></tr>
<tr><td>Fineness adjustment knob</td><td colspan="2"></td><td colspan="2">2 and ¼ turns</td></tr>
<tr><td>Air pressure</td><td colspan="4">51 PSI (350 Kpa) in summer - to - 71 PSI (490 Kpa) in winter</td></tr>
<tr><td rowspan="3">Hole A, A'</td><td>Insert length of hose (mm)</td><td colspan="2">240</td><td colspan="2">180</td></tr>
<tr><td>Spraying time (s)</td><td colspan="4">Until Anti-Corrosion agent leaks from the opening of the lower arm bracket</td></tr>
<tr><td>Spraying time during removal</td><td colspan="4">10 seconds</td></tr>
<tr><td rowspan="3">Hole B, B'</td><td>Insert length of hose (mm)</td><td colspan="2">100 mm</td><td colspan="2">70 mm</td></tr>
<tr><td>Spraying time (s)</td><td colspan="4">10 seconds</td></tr>
<tr><td>Spraying time during removal</td><td colspan="4">10 seconds</td></tr>
<tr><td rowspan="2">Hole C, C'</td><td>Insert length of hose (mm)</td><td colspan="4">25 mm</td></tr>
<tr><td>Spraying time (s)</td><td colspan="4">10 seconds</td></tr>
<tr><td rowspan="2">Hole D</td><td>Insert length of hose (mm)</td><td colspan="4">25 mm</td></tr>
<tr><td>Spraying time (s)</td><td colspan="4">10 seconds</td></tr>
<tr><td rowspan="3">Hole E, E'</td><td>Insert length of hose (mm)</td><td colspan="2" rowspan="3"></td><td colspan="2">180 mm</td></tr>
<tr><td>Spraying time (s)</td><td colspan="2">10 seconds</td></tr>
<tr><td>Spraying time during removal</td><td colspan="2">10 seconds</td></tr>
</table>

When using the combination below:

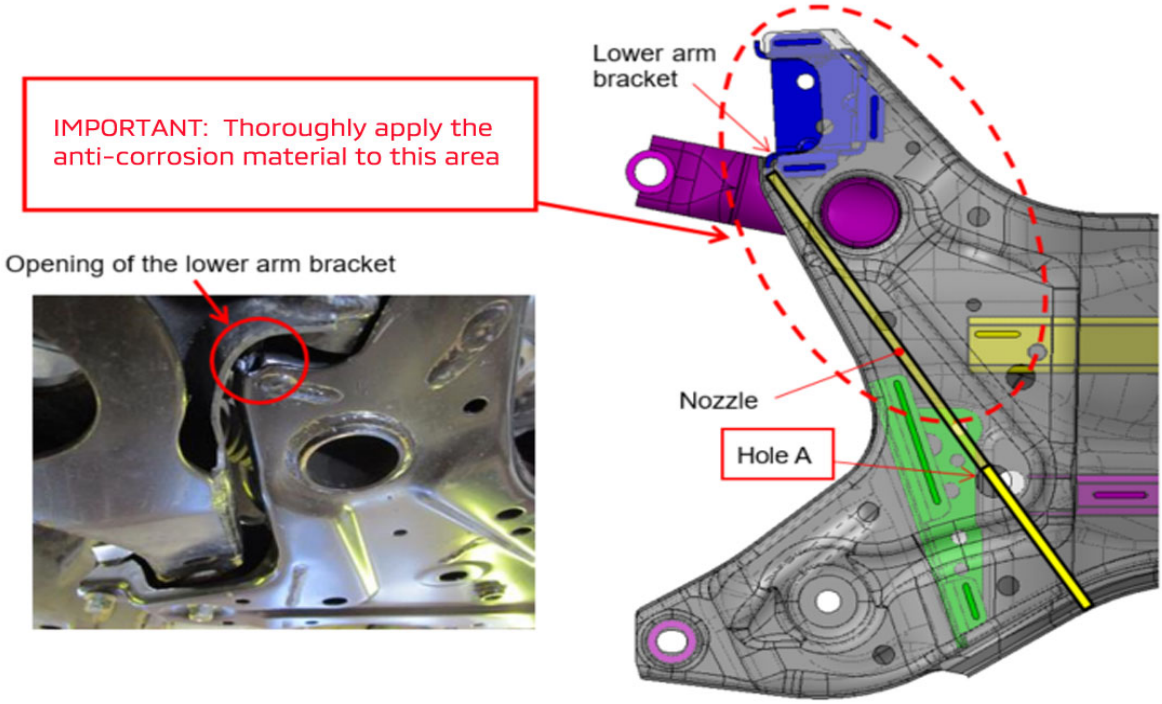
Anti-Corrosion Agent		Spray Gun	
MZ341024EX (NOX-RUST712AM)	MZ321015 (Noxudol 700)	MZ341023EX (For NOX-RUST712AM)	WURTH type (HRS2) (Noxudol 700)
X	-	X	-

Nozzle should be inserted into the 7 holes identified:



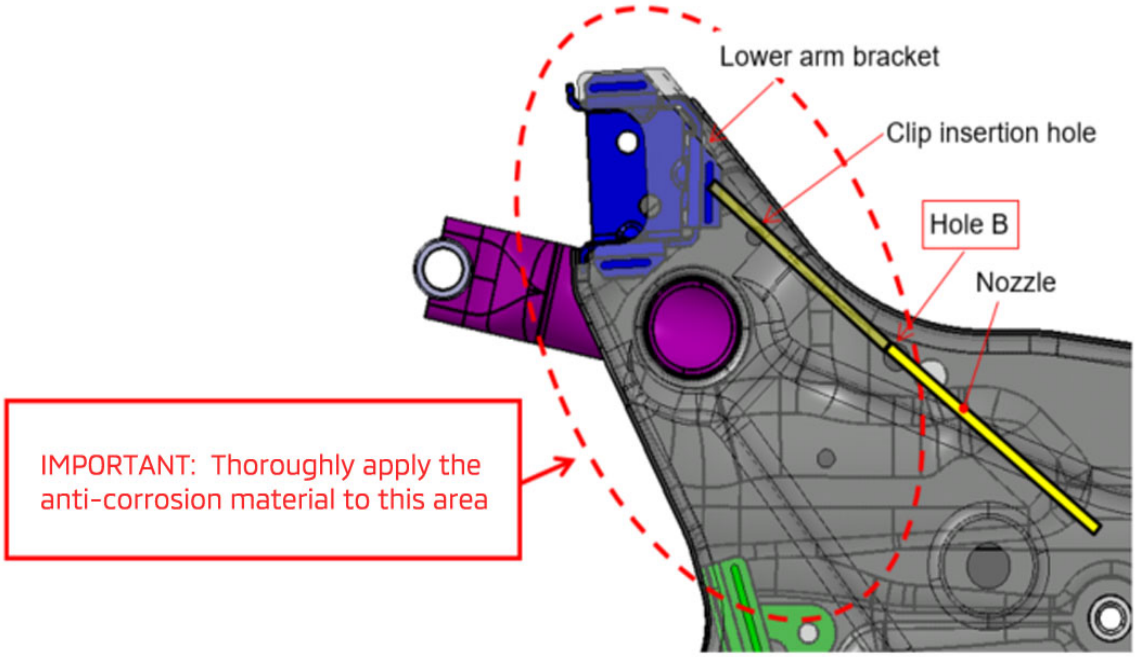
a. Spraying into the Hole A (RH) / A' (LH)

- Insert the nozzle through Hole **A(A')** in the direction shown below until it contacts the lower arm bracket (Insertion length: 240mm or 9.5 inches). Confirm that the nozzle has been fully inserted in the correct direction by looking in the opening of the lower arm bracket.
- Apply **MZ341024EX** by engaging the trigger fully at the position demonstrated below and confirm the **MZ341024EX** leaks out of the opening of the lower arm bracket. Continue spraying while removing the nozzle, which should take 10 seconds.



b. Spraying into the Hole B (RH) / B' (LH)

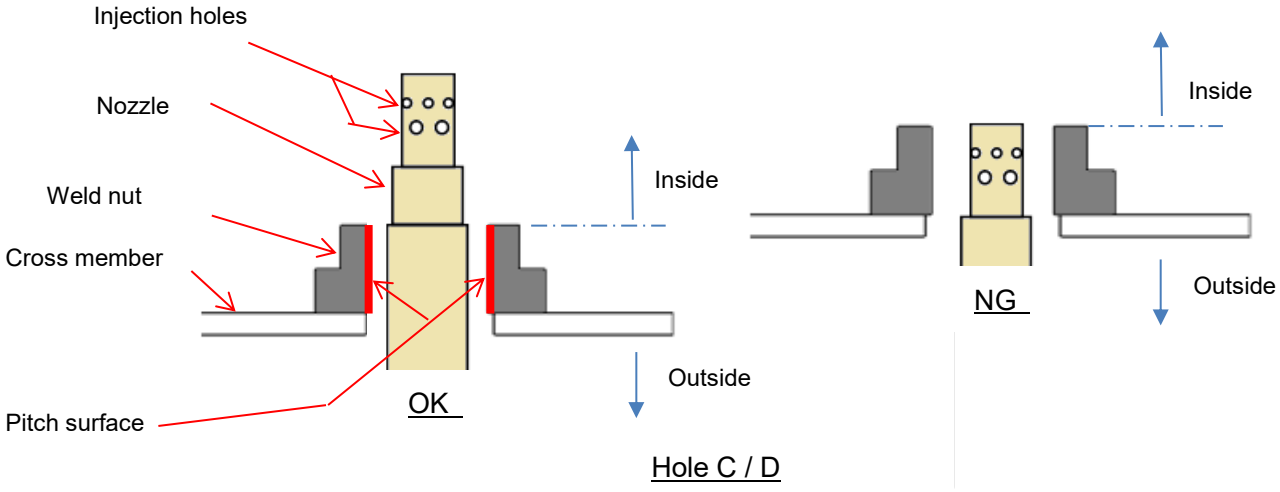
- Insert the nozzle through Hole **B (B')** in the direction shown below until it contacts the lower arm bracket (Insertion length: 100mm or 4 inches). Confirm that the nozzle has been fully inserted in the correction direction by looking in the clip insertion hole.
- Apply **MZ341024EX** fully by engaging the trigger fully at this position for 10 seconds and continue spraying while removing the nozzle, which should take another 10 seconds.



c. Spraying into the Hole C (RH) / C' (LH) and D

- Insert the nozzle through the Hole **C (C') or D** upwards (Insertion length: 25 mm or 1 inch).
- Apply **MZ341024EX** fully by engaging the trigger fully and continue spraying while moving the nozzle in a circular motion for 10 seconds at each hole.

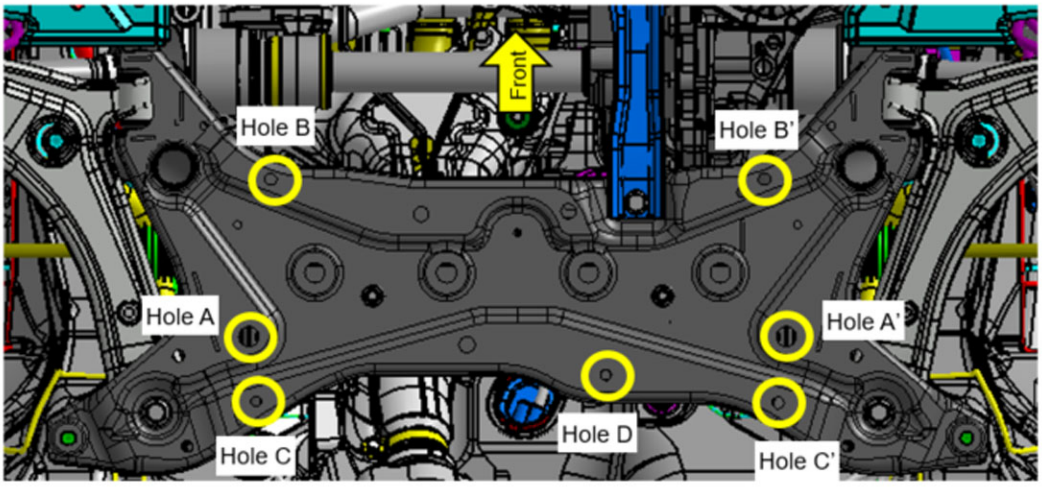
⚠ **CAUTION** **On Hole C and Hole D, insert nozzle until the nozzle is over weld nut. Make sure the anti-corrosion agent is not put on the inner surface of weld nut. Should anti-corrosion agent get on the inner surface of the weld nut; please remove by using a Universal Absorbent Pad.**



When using the combination below:

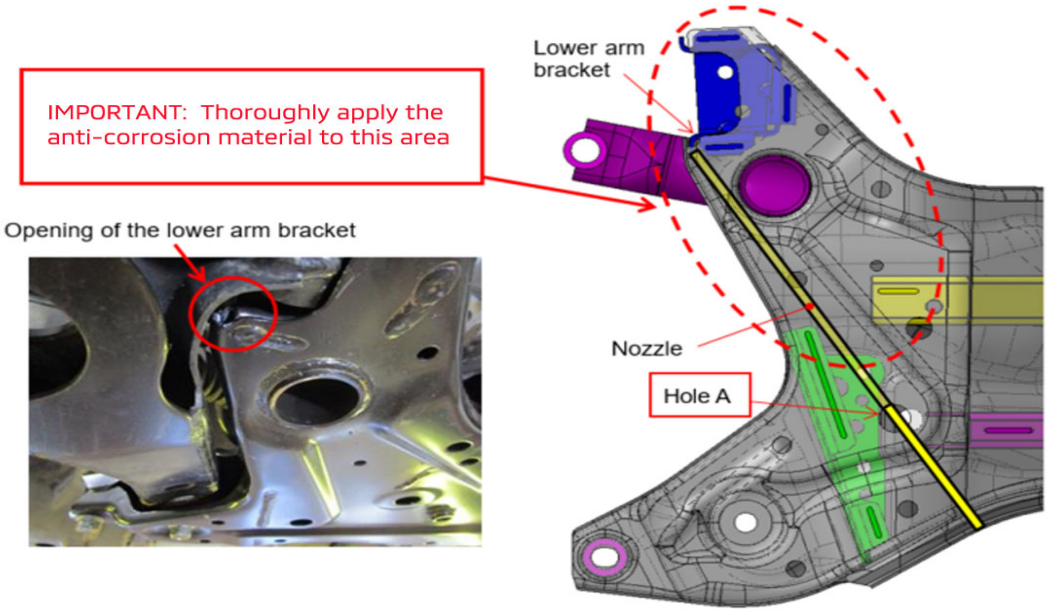
Anti-Corrosion Agent		Spray Gun	
MZ341024EX (NOX-RUST 712AM)	MZ321015 (Noxudol 700)	MZ341023EX (for NOX-RUST 712AM)	WURTH type (HRS2) (Noxudol 700)
-	X	X	-

Nozzle should be inserted into the 7 holes identified:



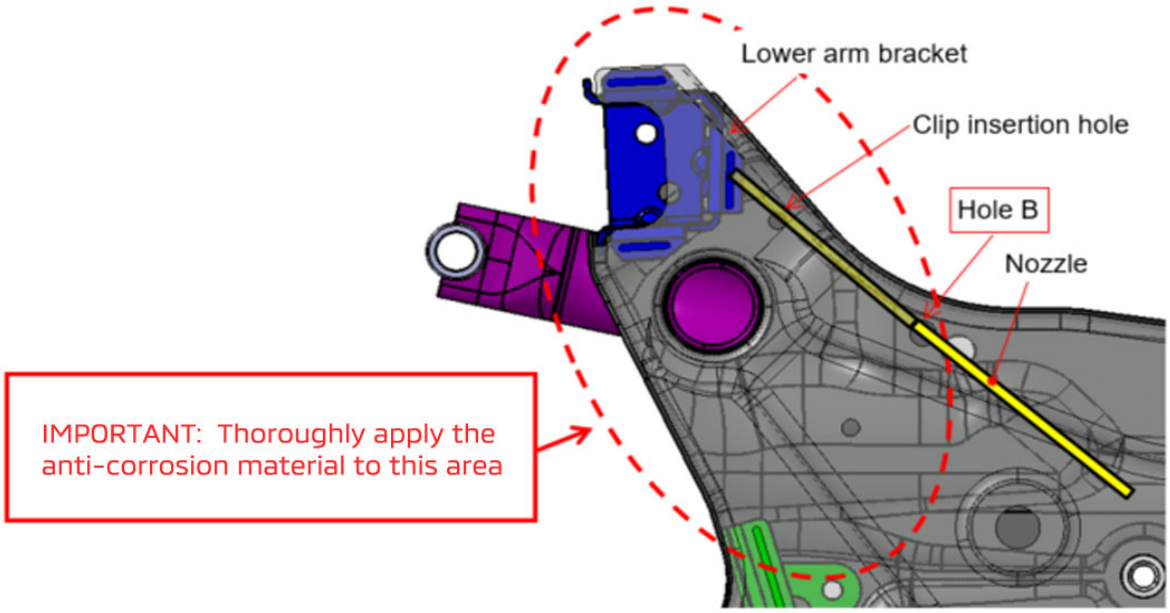
d. Spraying into the Hole A (RH) / A' (LH)

- Insert the nozzle through hole **A(A')** in the direction shown below until it contacts the lower arm bracket (Insertion length: 240mm or 9.5 inches). Confirm that the nozzle has been fully inserted in the correct direction by looking in the opening of the lower arm bracket.
- Apply **MZ321015** by engaging the trigger fully at the position demonstrated below and confirm the **MZ321015** leaks out of the opening of the lower arm bracket. Continue spraying while removing the nozzle, which should take 10 seconds.



e. Spraying into the Hole B (RH) / B' (LH)

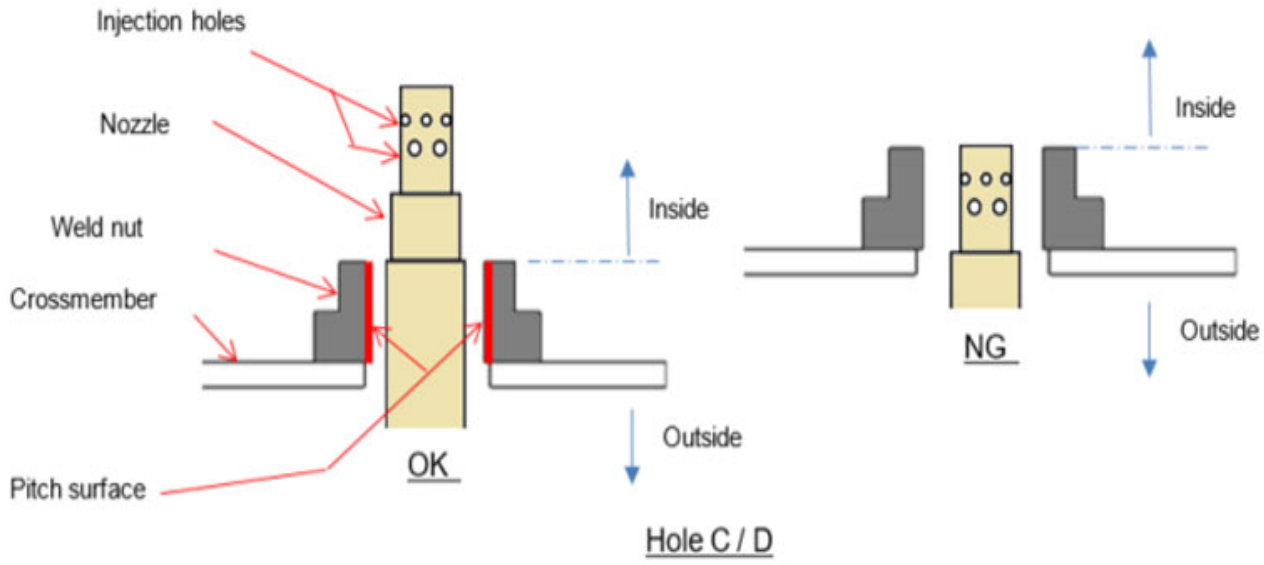
- Insert the nozzle through Hole **B (B')** in the direction shown below until it contacts the lower arm bracket (Insertion length: 100mm or 4 inches). Confirm that the nozzle has been fully inserted in the correct direction by looking in the clip insertion hole.
- Apply **MZ321015** by engaging the trigger fully at this position for 10 seconds and continue spraying while removing the nozzle, which should take another 10 seconds.



f. Spraying into the Hole C (RH) / C' (LH) and D

- Insert the nozzle through the Hole **C (C') or D** upwards (Insertion length: 25 mm or 1 inch).
- Apply **MZ321015** by engaging the trigger fully and continue spraying while moving the nozzle in a circular motion for 10 seconds at each hole.

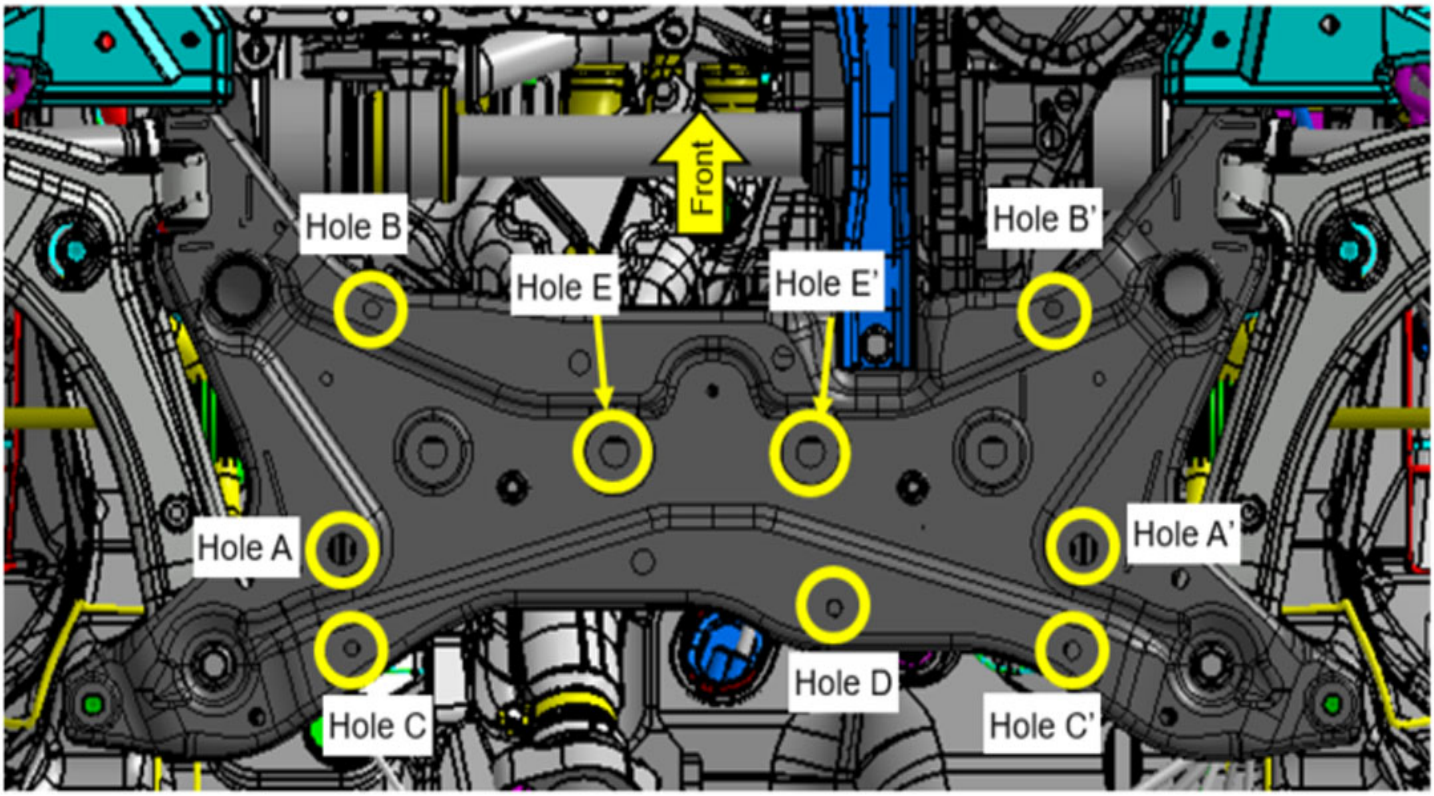
⚠ CAUTION **On Hole C and Hole D, insert nozzle until the nozzle is over weld nut. Make sure the anti-corrosion agent is not put on the inner surface of weld nut. Should anti-corrosion agent get on the inner surface of the weld nut; please remove by using Universal Absorbent Pads.**



When using the combination below:

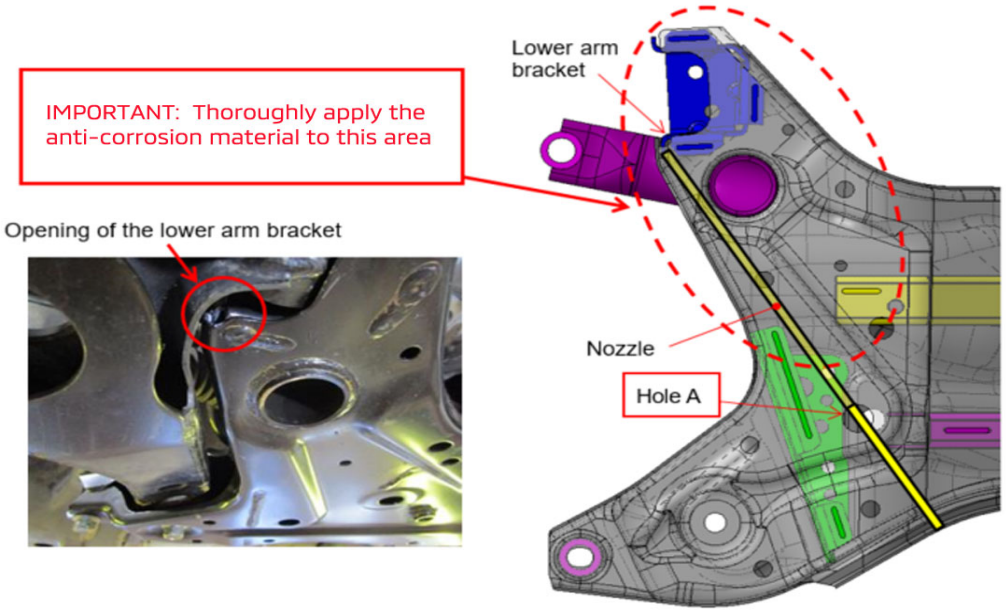
Anti-Corrosion Agent		Spray Gun	
MZ341024EX (NOX-RUST 712AM)	MZ321015 Noxudol 700	MZ341023EX For NOX-RUST 712AM	WURTH type (HRS2) (Noxudol 700)
X	-	-	X

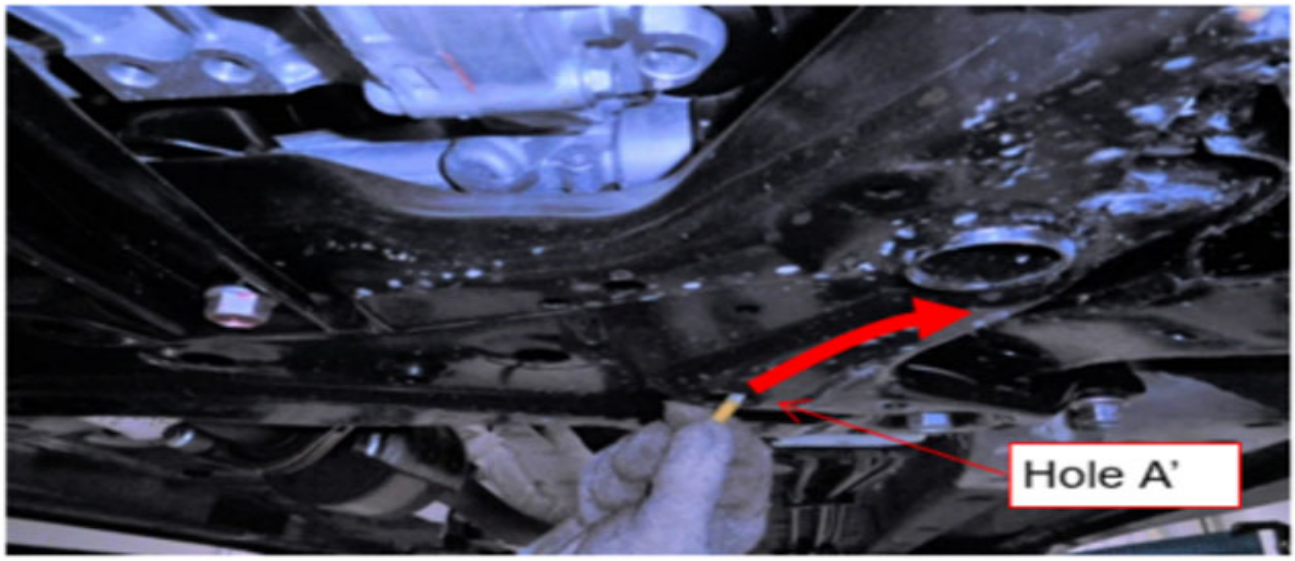
Nozzle should be inserted into the 9 holes identified:



g. Spraying into the Hole A (RH) / A' (LH)

- Insert the nozzle through Hole **A(A')** in the direction shown below until it contacts the lower arm bracket (Insertion length: 180mm or 7 inches). Confirm that the nozzle has been fully inserted in the correct direction by looking in the opening of the lower arm bracket.
- Apply **MZ341024EX** by engaging the trigger fully at the position demonstrated below and confirm the **MZ341024EX** leaks out of the opening of the lower arm bracket. Continue spraying while removing the nozzle, which should take 10 seconds.

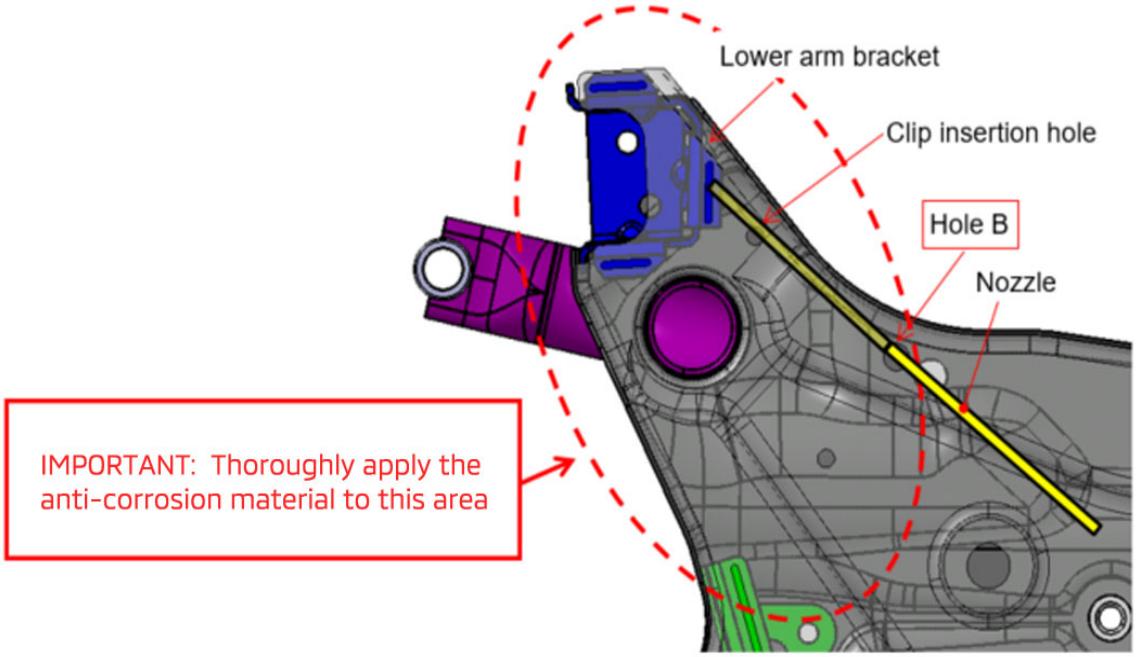


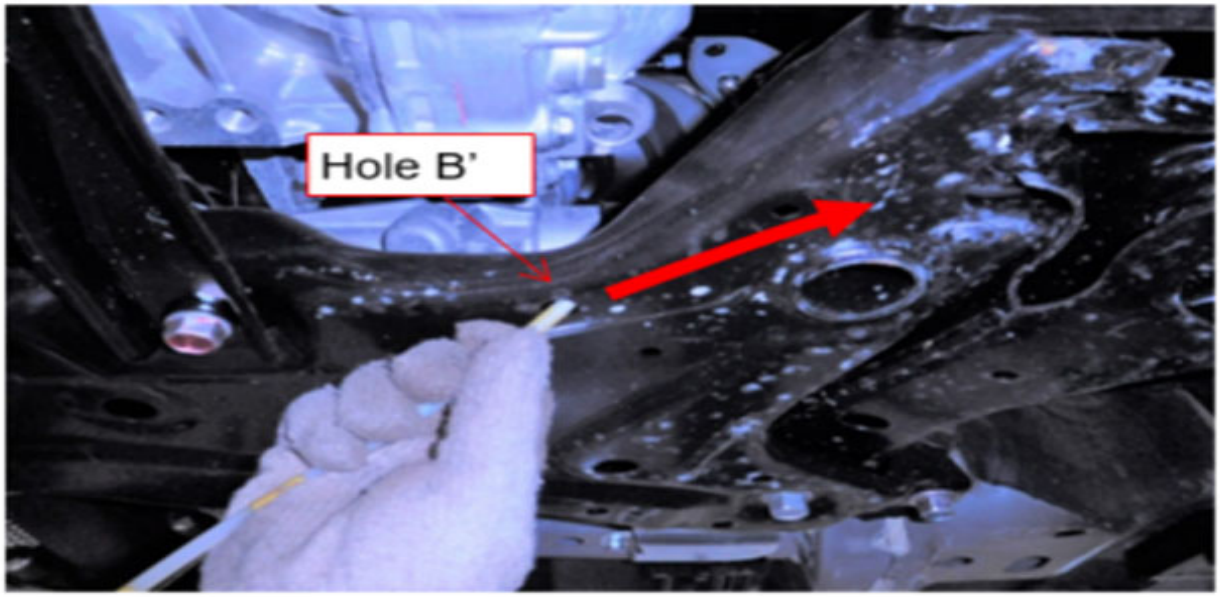


h. Spraying into the Hole A (RH) / A' (LH)

- Insert the nozzle through Hole **A(A')** in the direction shown below until it contacts the lower arm bracket (Insertion length: 70mm or 2.75 inches). Confirm that the nozzle has been fully inserted in the correct direction by looking in the opening of the lower arm bracket.

- Apply **MZ341024EX** by engaging the trigger fully at the position demonstrated below for 10 seconds and continue spraying while removing the nozzle, which should take 10 seconds.

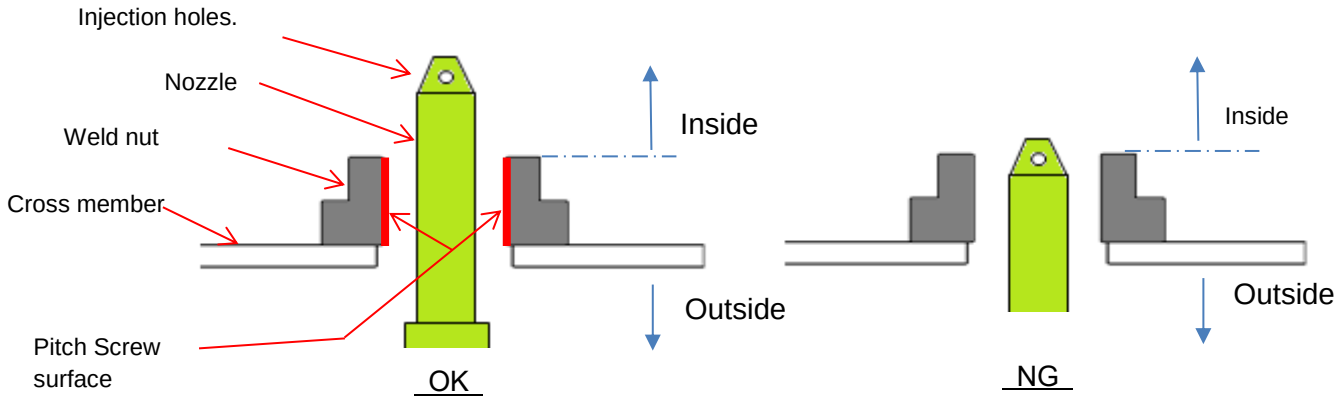




i. Spraying into the Hole C (RH) / C' (LH) and D

- Insert the nozzle through the Hole **C (C') or D** upwards (Insertion length: 25 mm or 1 inch).
- Apply **MZ341024EX** by engaging the trigger fully and spray for 10 seconds at this position.

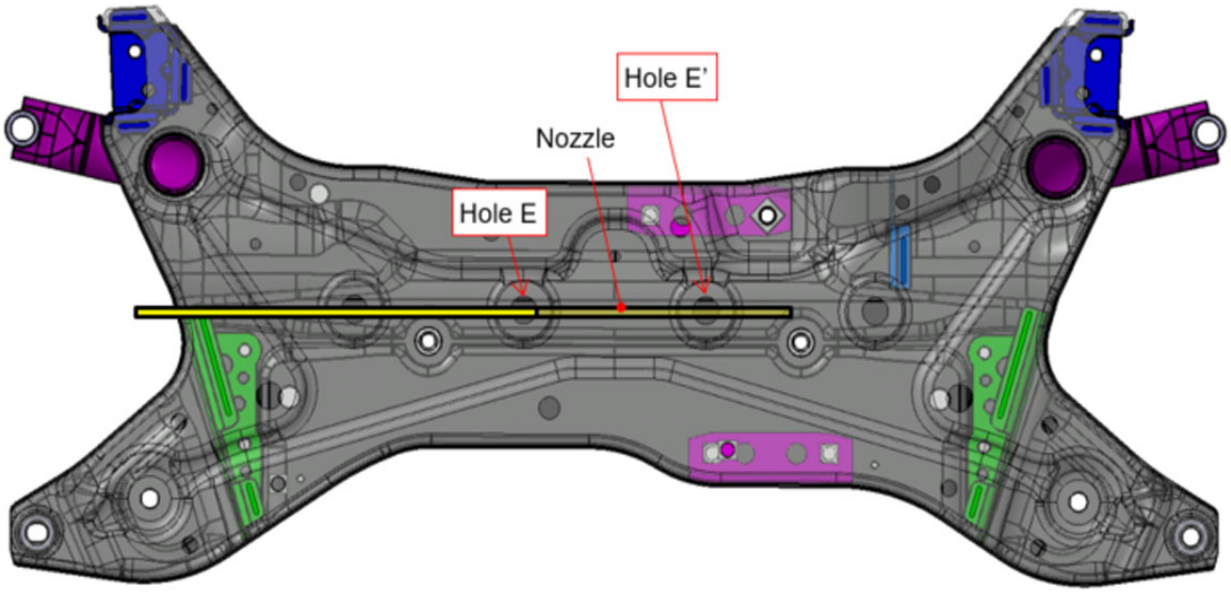
⚠ CAUTION **On Hole C and Hole D, insert nozzle until the nozzle is over weld nut. Make sure the anti-corrosion agent is not put on the inner surface of weld nut. Should anti-corrosion agent get on the inner surface of the weld nut; please remove by using Universal Absorbent Pads.**

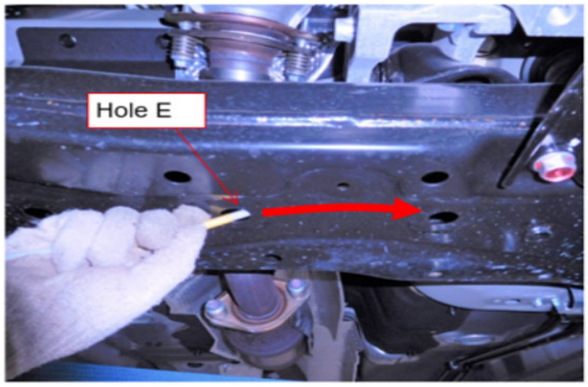


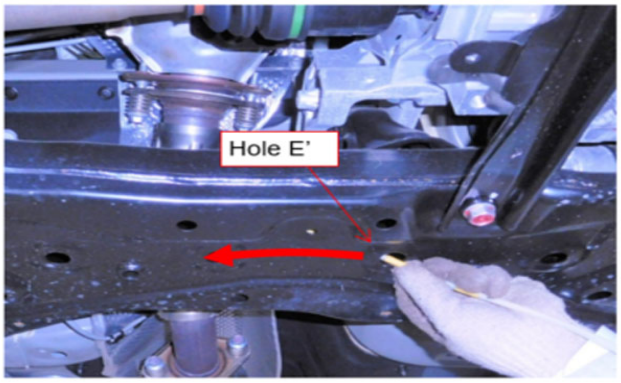
Hole C / D

j. Spraying into the Hole E (RH) / E' (LH)

- Insert the nozzle through the Hole **E (E')** in the direction shown below (Insertion length: 180 mm or 7 inches).
- Apply **MZ341024EX** by engaging the trigger fully and spray for 10 seconds. Continue spraying while removing the nozzle, which should take 10 seconds.



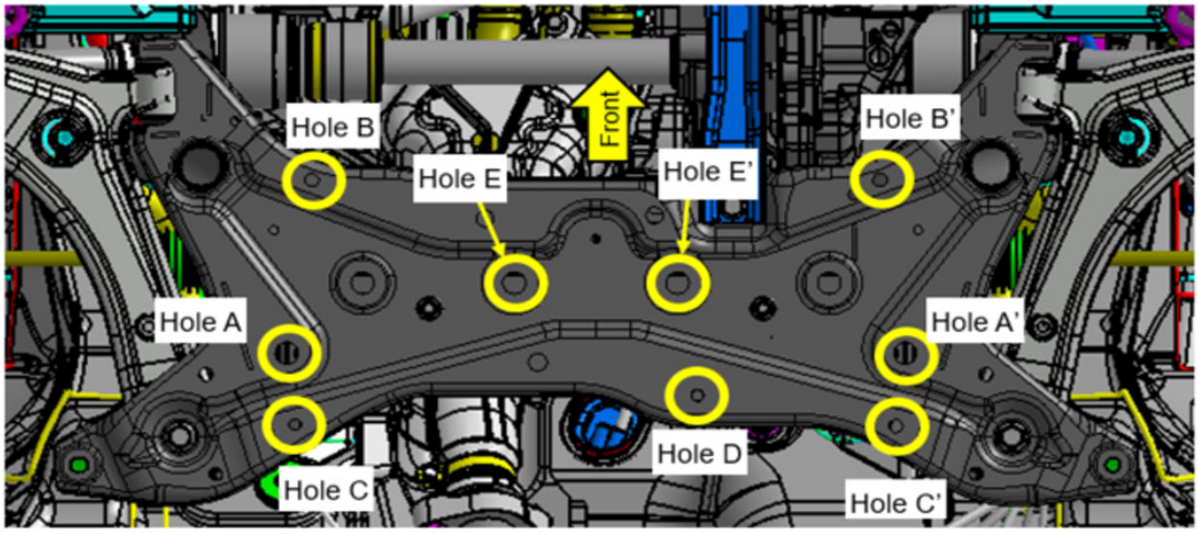




When using the combination below:

Anti-Corrosion Agent		Spray Gun	
MZ341024EX (NOX-RUST 712AM)	MZ321015 (Noxudol 700)	MZ341023EX (For NOX-RUST 712AM)	WURTH type (HRS2) (For Nuxudol 700)
-	X	-	X

Nozzle should be inserted into the 9 holes identified:

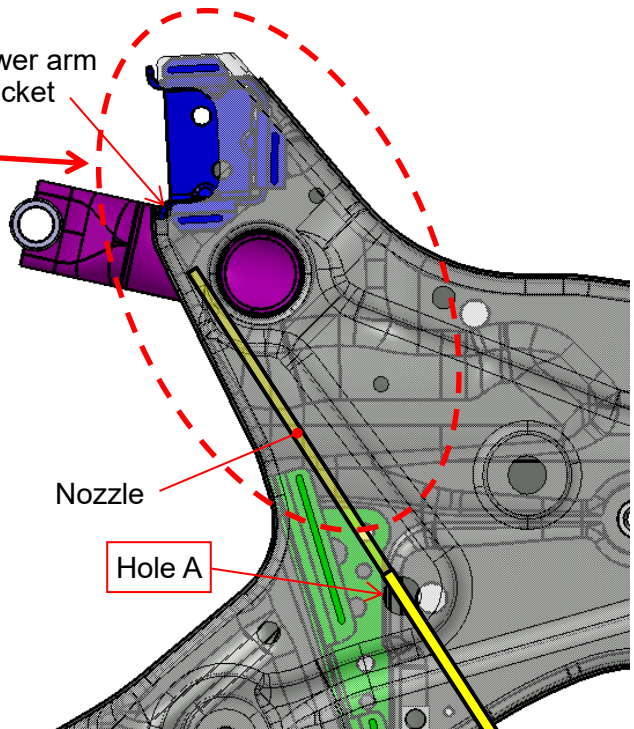


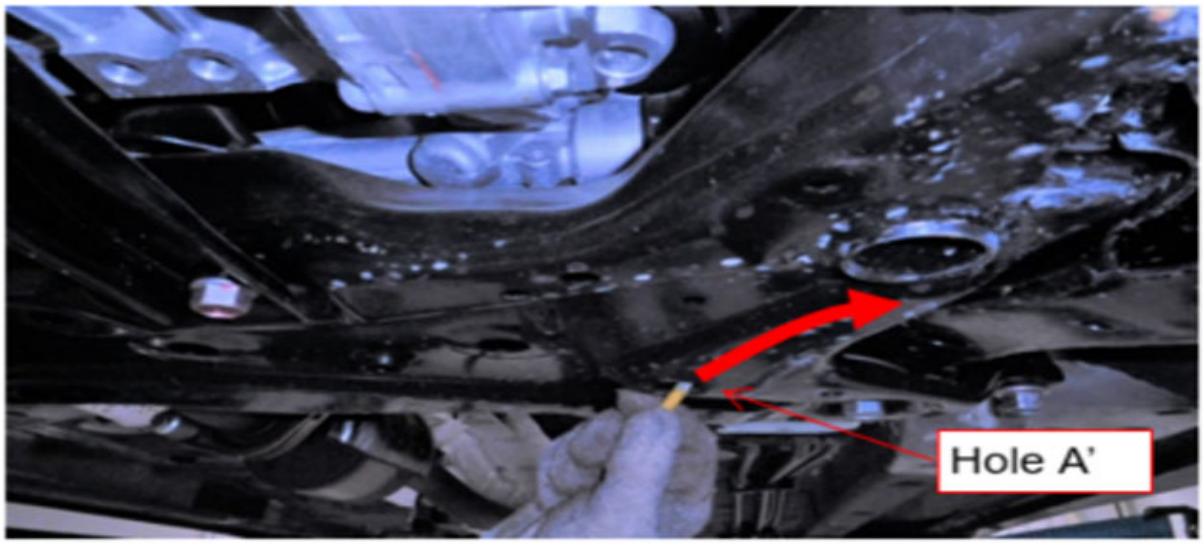
k. Spraying into the Hole A (RH) / A' (LH)

- Insert the nozzle through Hole **A(A')** in the direction shown below until it contacts the lower arm bracket (Insertion length: 180mm or 7 inches). Confirm that the nozzle has been fully inserted in the correct direction by looking in the opening of the lower arm bracket.
- Apply **MZ321015** by engaging the trigger fully at the position demonstrated below and confirm the **MZ321015** leaks out of the opening of the lower arm bracket. Continue spraying while removing the nozzle, which should take 10 seconds.

Important: Thoroughly apply the Anti-corrosion material to this area

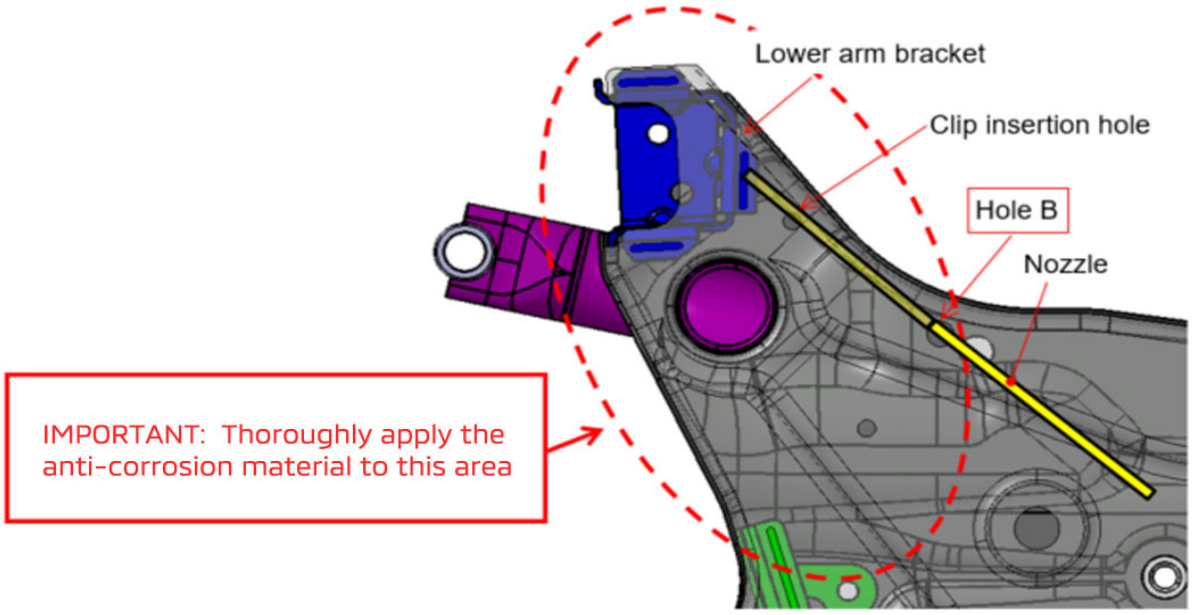
Opening of the lower arm bracket

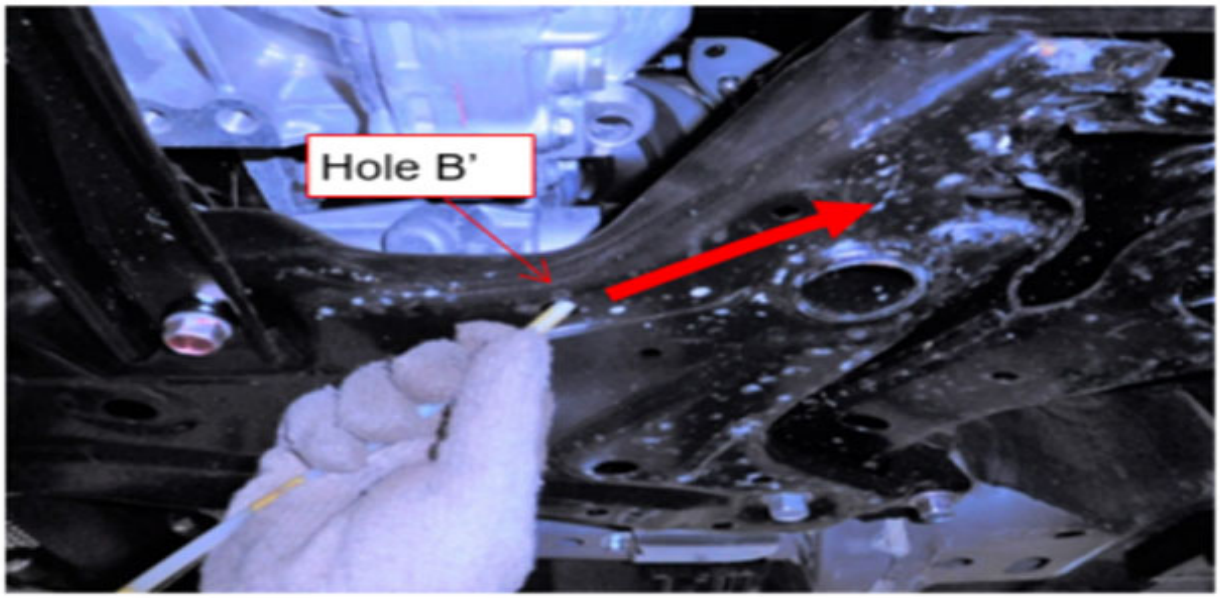




l. Spraying into the Hole B (RH) / B' (LH)

- Insert the nozzle through Hole **B (B')** in the direction shown below until it contacts the lower arm bracket (Insertion length: 70mm or 2.75 inches). Confirm that the nozzle has been fully inserted in the correct direction by looking in the clip insertion hole.
- Apply **MZ321015** by engaging the trigger fully at this position for 10 seconds and continue spraying while removing the nozzle, which should take another 10 seconds.

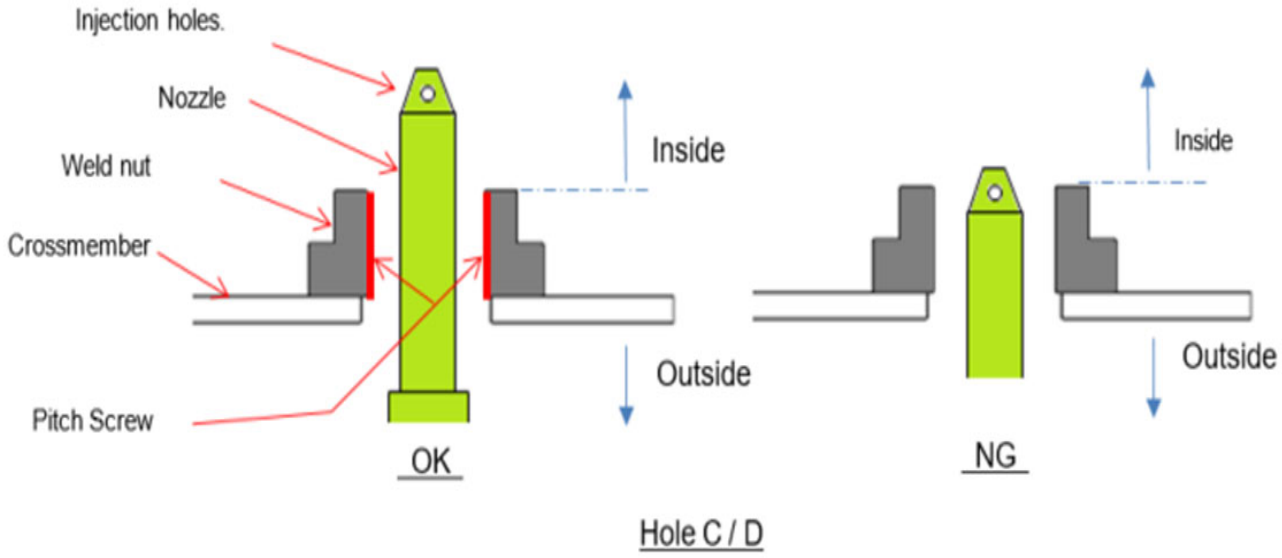




m. Spraying into the Hole C (RH) / C' (LH) and D

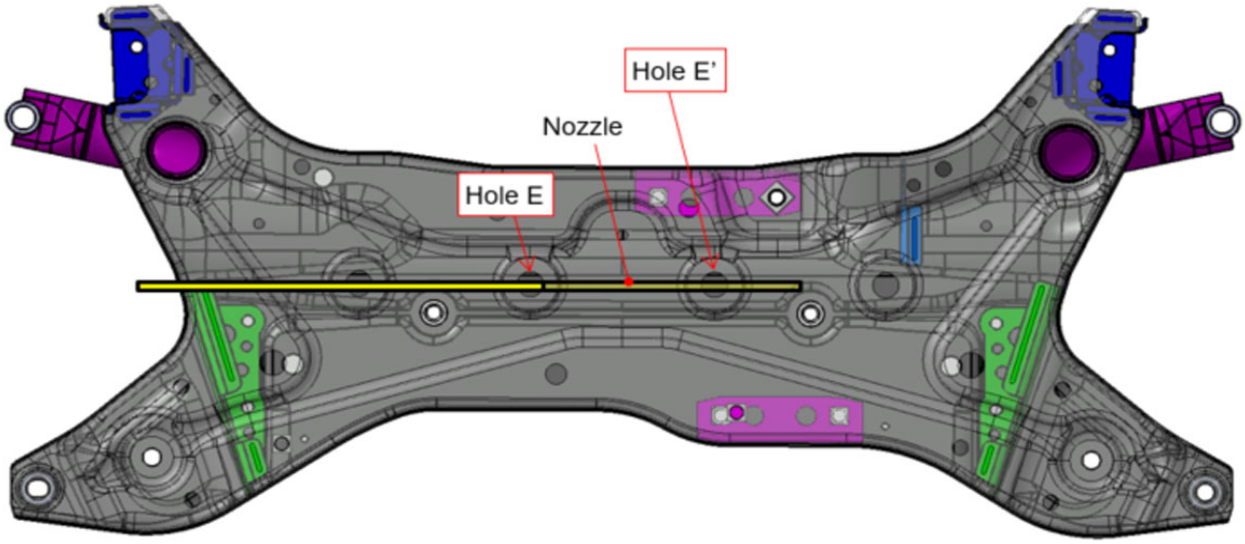
- Insert the nozzle through the Hole **C (C') or D** upwards (Insertion length: 25 mm or 1 inch).
- Apply **MZ321015** by engaging the trigger fully and spray for 10 seconds at this position.

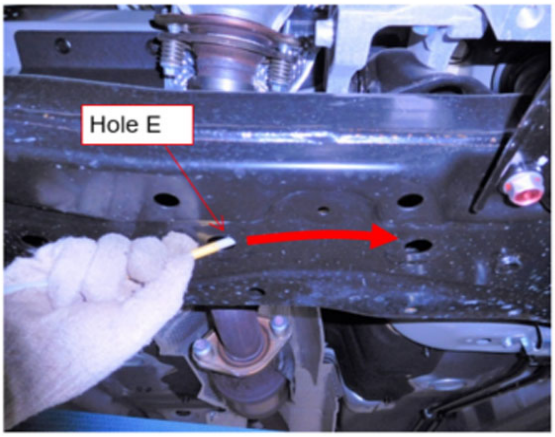
⚠ CAUTION **On Hole C and Hole D, insert nozzle until the nozzle is over weld nut. Make sure the anti-corrosion agent is not put on the inner surface of weld nut. Should anti-corrosion agent get on the inner surface of the weld nut; please remove by using Universal Absorbent Pads.**

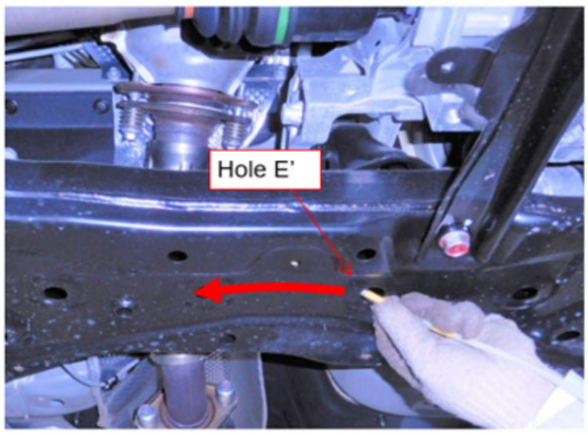


n. Spraying into the Hole E (RH) / E' (LH)

- Insert the nozzle through the Hole **E (E')** in the direction shown below (Insertion length: 180 mm or 7 inches).
- Apply **MZ321015** by engaging the trigger fully and spray for 10 seconds. Continue spraying while removing the nozzle, which should take 10 seconds.





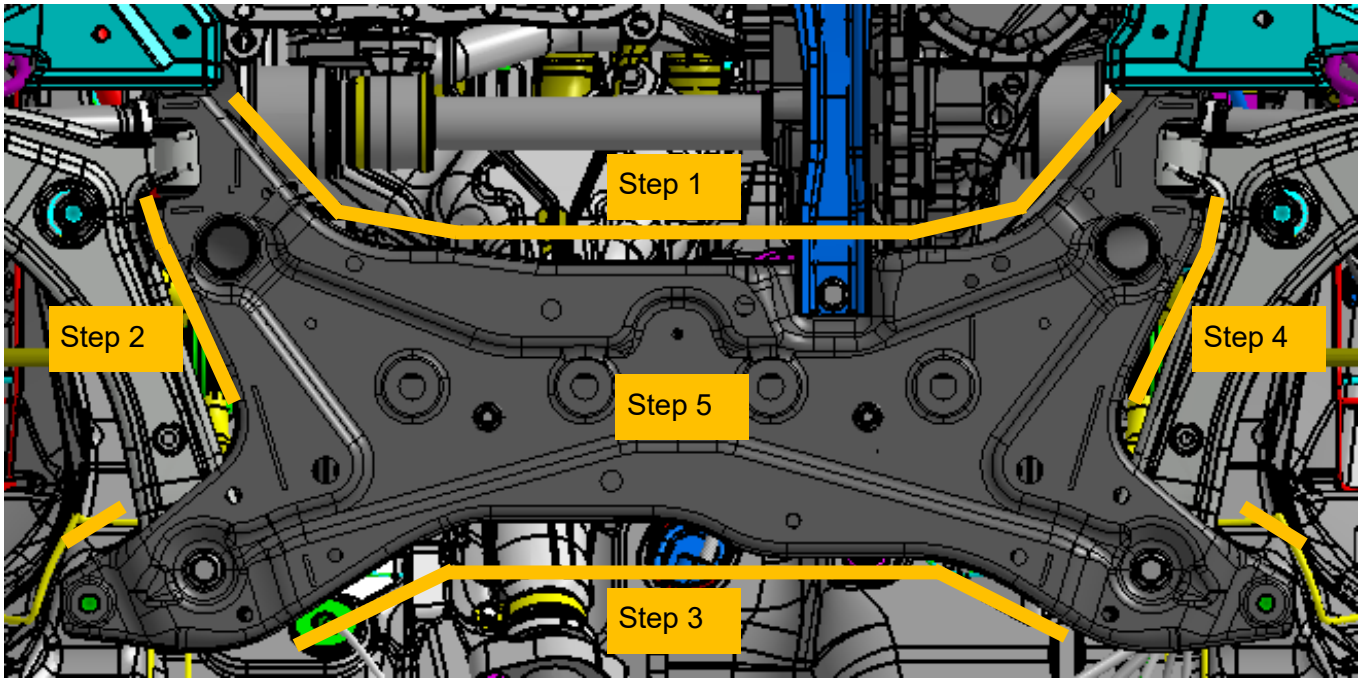


Application of anti-corrosion agent - MZ320800 - to the outside of the Crossmember.

⚠ CAUTION **Wear safety glasses, respirator, and gloves when spraying MZ320800.**

1. Masking:
   - Mask rubber components such as suspension bushings, brake hoses, steering gear box boots/drive shaft boots, and exhaust pipe to prevent **MZ320800** from coming into contact with these components.
2. **MZ320800** external application:
   - Without detaching the Crossmember from the vehicle, apply **MZ320800** by positioning the nozzle 100 to 200 mm (or 4 to 8 inches) away from the Crossmember surface in the following order:
     - Step 1 Front surface
     - Step 2 Right surface
     - Step 3 Rear surface
     - Step 4 Left side surface
     - Step 5 bottom surface
     - Spray **MZ320800** by moving the nozzle at a constant speed of 0.2m/second (or 8 inches/second). Spray it 2 to 3 times, repeatedly.

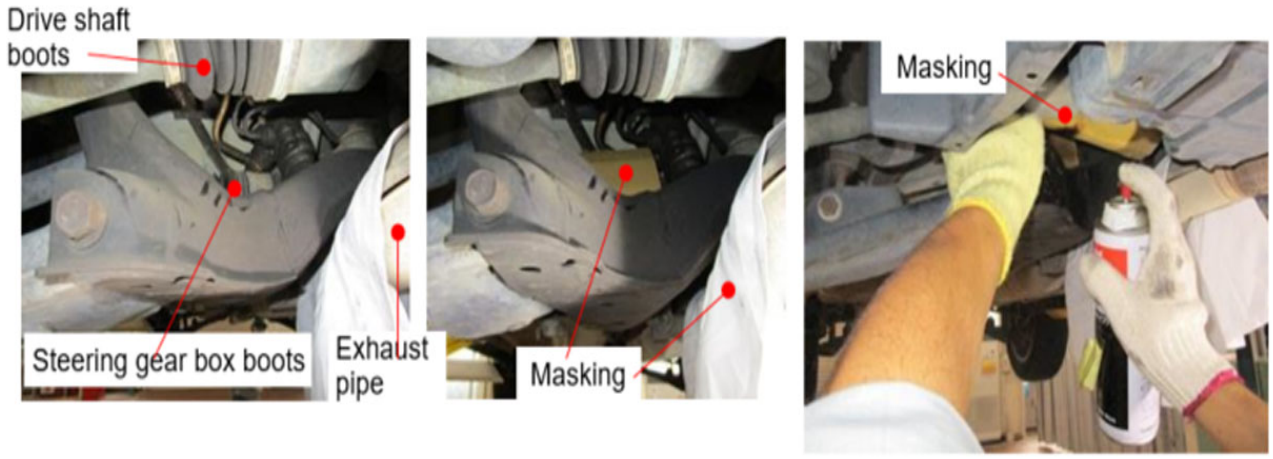
08-13MY Outlander (L4 Engine) / 08-10MY Lancer / 11-16MY RVR



⚠ CAUTION **Wear safety glasses, respirator, and gloves when spraying MZ320800.**

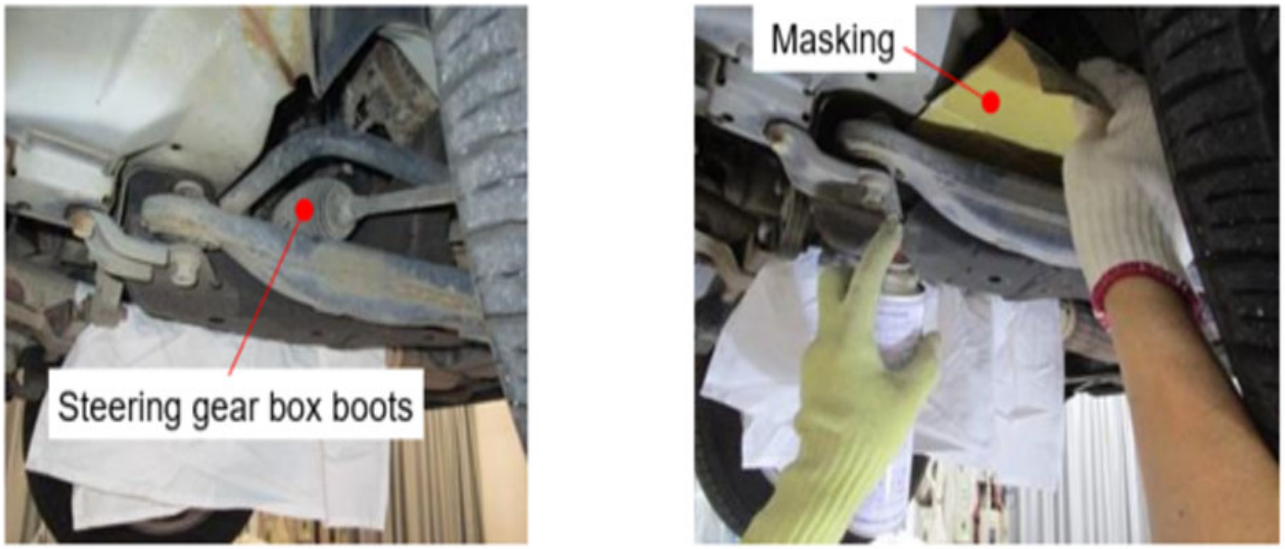
a. Step 1 - Front surface:

- Mask steering gear box boots, drive shaft boots and exhaust pipe.



b. Step 2 - Right side surface / Step 4 - Left side surface:

- Mask suspension bushings, steering gear box boots, drive shaft boots, and brake hoses.



c. Step 3 - Rear surface / Step 5 bottom surface:
   - Mask exhaust pipe.

PARTS INFORMATION

Use only the Genuine Mitsubishi Parts listed below:

Part Number	Part Description	Part Name	Quantity/Vehicle
MZ341024EX* or MZ321015*	Anti-Corrosion Agent (Use with spray gun) for inside the crossmember	NOX-RUST 712AM or NOXUDOL 700	5 vehicles per bottle
MZ320800*	Anti-Corrosion Agent (Aerosol) for outside of the crossmember	THREE RUSTER TB6154D	5 vehicles per can
MW400273	Crossmember	For applicable replacement	1

**** These parts are Direct-Ship parts from Wurth - requirements must be ordered directly from Wurth.***

NOTE: Additional spray gun or air regulators may be purchased at dealer's expense.

WARRANTY INFORMATION

Vehicles	Campaign Operation	Labour Time (hrs)	Repair Description
2008-2010 Lancer, 2009-2010 Lancer Sportback, 2008-2013 Outlander, & 2011-2012 and 2016 RVR / Outlander Sport	C2003R01	1.0	Inspection & Application of Anti-Rust Agents (Lancer, Lancer Sportback)
	C2003R02	0.9	Inspection & Application of Anti-Rust Agents (Outlander, RVR/Outlander Sport)
	C2003R03	3.3	Inspection & Replacement of Cross-member (Lancer, Lancer Sportback, Outlander)
	C2003R04	2.5	Inspection & Replacement of Cross-member (RVR/Outlander Sport)
2013 RVR / Outlander Sport	C2003X01	0.9	Inspection & Application of Anti-Rust Agents (2013 RVR/Outlander Sport)
	C2003X02	2.5	Inspection & Replacement of Cross-member (2013 RVR/Outlander Sport)
2014-2015 RVR / Outlander Sport	C2003Z01	0.9	Inspection & Application of Anti-Rust Agents
	C2003Z02	2.5	Inspection & Replacement of Cross-member

Warranty / Recall Campaign Claim Information

Enter all claims as claim type 'C' – Recall/Campaign Claims

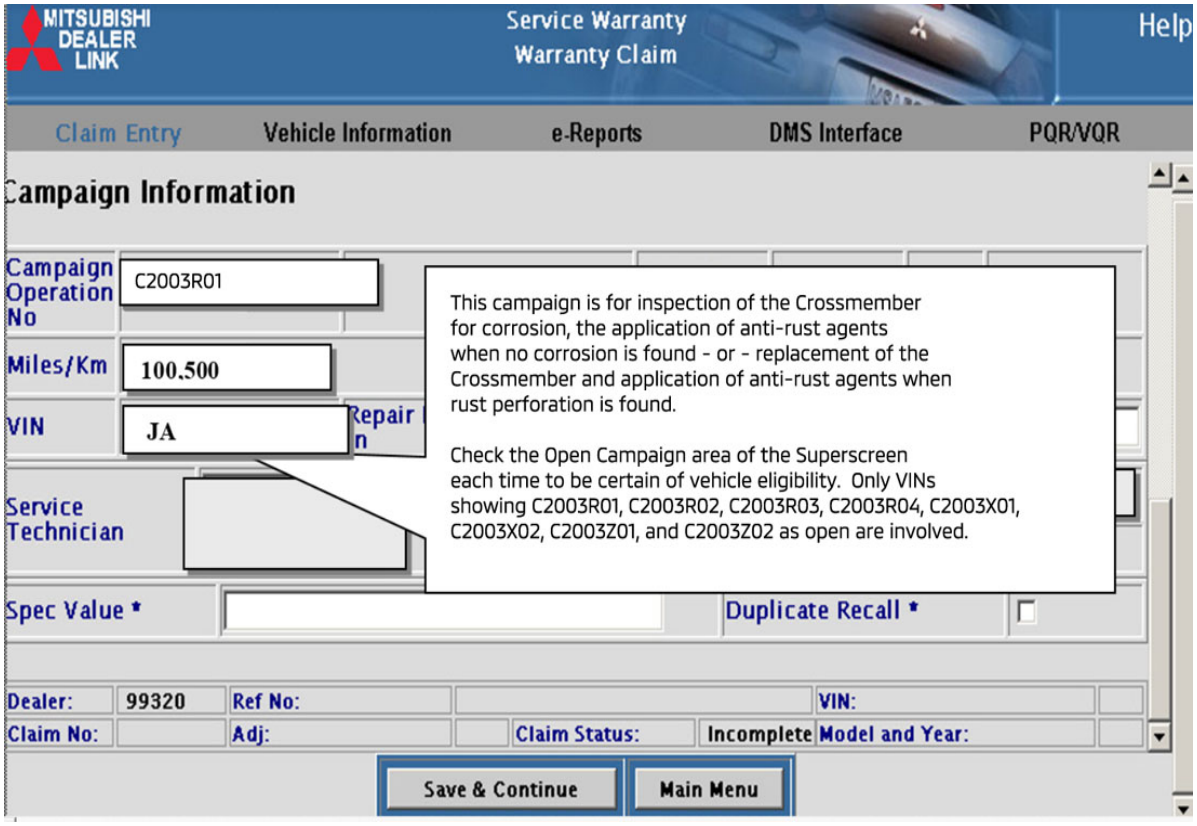
Please follow the campaign instructions below.

Certain affected vehicles:

2008 – 2010 Lancer
2009 - 2010 Lancer Sportback
2008 - 2013 Outlander
2011 – 2016 RVR / Outlander Sport

NOTE: Always check the Superscreen to verify vehicle involvement.

A claim ***example for reference:***



LABOUR AND PARTS

LABOUR: There are only 2 possible repair scenarios for this campaign.

Scenario 1
Inspect = OK - then still must apply the 2 anti-rust agents only.

Scenario 2
Inspect = excessive corrosion (perforation) - then replace Crossmember and specified related specified parts.

PARTS

Both scenarios require the application of the 2 anti-rust agents.

Only Scenario 2, requires the replacement of the Crossmember and specified related parts.

Each can of the anti-rust agents is enough to do 5 vehicles. Thus, the dealer net price for each of the materials is priced at dealer net divided by 5 and will be reflected automatically when entering the parts costs on the related recall campaign claim. Dealers will receive markup based on the per vehicle material prices.

RENTAL CARS:

If there is a need to provide the owner with a rental vehicle, contact the Canadian Warranty Department as per Warranty Bulletin WB2012-001

MITSUBISHI MOTOR SALES OF CANADA, INC.
VENTES DE VÉHICULES MITSUBISHI DU CANADA, INC.
4141 Dixie Road P.O. Box 41009, Mississauga Ontario L4W 5C9
1-888-57-MITSU (1-888-576-4878)

IMPORTANT SAFETY RECALL

This notice applies to your vehicle, _____.

Date: July 2020

Dear FIRSTAME LASTNAME,

This notice has been sent to you in accordance with the requirements of the Motor Vehicle Safety Act of Canada and may contain a safety defect that could affect the safety of a person.

Reason for notice: Mitsubishi Motor Sales of Canada, Inc., (MMSCAN) has decided that a defect which relates to motor vehicle safety exists in certain model year 2008 - 2010 Lancer, 2009 - 2010 Lancer Sportback, 2008 - 2013 Outlander, and 2011 – 2016 RVR vehicles operated where road salt is used during the winter. The inside and outside surfaces of the front cross members used on certain vehicles, if exposed long term to snow melt water and anti-freezing agents, may corrode due to insufficient performance of the rust protection agent. If this occurs, the front lower control arms may detach. A detached front control arm can result in a loss of vehicle control, increasing the risk of a crash.

What you should do: Please contact your local Mitsubishi Motors dealer and schedule an appointment to have the repair performed. When you bring your vehicle in, please show the dealer this letter. If you misplace this letter, the dealer will still perform this repair for your vehicle, free of charge.

What your dealer will do: The dealership will inspect and apply anti-corrosion agents to the inside and outside of your vehicle's cross member. If perforation(s) are found during inspection, the dealer will replace your vehicle's cross member with a new one, and apply anti-corrosion agents to the inside and outside of the new cross member.

How long will it take? The time needed for inspection and application of anti-corrosion agents is approximately **1.5** hrs. If perforation(s) are found during the inspection, the repair could take up to **4 hrs**. The dealer may need your vehicle for a longer period of time, but every effort will be made to minimize your inconvenience.

If you are the lessor of this vehicle, please forward a copy of this notice to the lessee within ten working days to comply with federal regulations.

If you have already encountered a problem with excessive cross member corrosion and had it repaired as a result of this specific condition and have paid for the repair, you may send your original repair order or invoice, **and** original receipt/proof of payment to the following address for reimbursement consideration:

Mitsubishi Motor Sales of Canada, Inc.
P.O. Box 41009, 4141 Dixie Road
Mississauga, ON, L4W 5C9

If you have any questions regarding this safety recall, please contact your Mitsubishi Dealer, or call the Mitsubishi bilingual Customer Relations Department at 1-888-576-4878 between the hours of 8:00a.m. and 5:00 p.m. Eastern Standard Time, Monday through Friday.

We appreciate your prompt attention to this matter.
Sincerely,

Mitsubishi Motor Sales of Canada, Inc.

C2003R
TC#2020216

SAFETY DATA SHEET

Nox-Rust® 712AM

Section 1. Identification

Product identifier : Nox-Rust® 712AM

Other means of identification : Not available.

Product type : Liquid.

Identified uses : Corrosion Preventive Compound.

Supplier/Manufacturer : Würth Canada Limited
6330, Tomken Road
Mississauga, ONT
L5T 1N2, Canada
Tel: (905) 564-6225

Emergency telephone number (with hours of operation) : CANUTEC: +1-613-996-6666 or *666 (cellular)
(24/7)

Section 2. Hazard identification

Classification of the substance or mixture : TOXIC TO REPRODUCTION (Fertility) - Category 1
TOXIC TO REPRODUCTION (Unborn child) - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1
AQUATIC HAZARD (ACUTE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H360 - May damage fertility or the unborn child.
H304 - May be fatal if swallowed and enters airways.
H373 - May cause damage to organs through prolonged or repeated exposure.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazard identification

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P273 - Avoid release to the environment.
P260 - Do not breathe vapor.

Response : P391 - Collect spillage.
P314 - Get medical attention if you feel unwell.
P308 + P313 - IF exposed or concerned: Get medical attention.
P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

Storage : P405 - Store locked up.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification/ HHNOC/PHNOC : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	% (w/w)	CAS number
White mineral oil (petroleum)	10 - 30	8042-47-5
Sulfonic acids, petroleum, calcium salts, overbased	3 - 5	68783-96-0
Castor oil, dehydrated, polymd.	3 - 5	68038-02-8

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Skin contact : Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First-aid measures

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : No known significant effects or critical hazards.

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : No specific data.

Special protective actions for fire-fighters : No special measures are required.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
White mineral oil (petroleum)	**CA British Columbia Provincial (Canada, 5/2015).** TWA: 1 mg/m³ 8 hours. **CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 5 mg/m³ 8 hours. Form: Mist 15 min OEL: 10 mg/m³ 15 minutes. Form: Mist **CA Ontario Provincial (Canada, 7/2015).** TWA: 5 mg/m³ 8 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 5 mg/m³ 8 hours. Form: Mist STEV: 10 mg/m³ 15 minutes. Form: Mist

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Viscous.]

Color : Yellowish brown.

Odor : Fat and Oil.

Odor threshold : Not available.

pH : Not available.

Melting point : <10°C (<50°F)

Boiling point : >250°C (>482°F)

Flash point : Closed cup: 210°C (410°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 1%
Upper: 7%

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.9 to 1

Solubility : Poorly soluble.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
White mineral oil (petroleum) Sulfonic acids, petroleum, calcium salts, overbased	LD50 Oral LD50 Oral	Rat Rat	>5000 mg/kg >5 g/kg	- -

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
White mineral oil (petroleum)	-	-	-	A4	-	-

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Castor oil, dehydrated, polymd.	Category 2	Not determined	Not determined

Aspiration hazard

Section 11. Toxicological information

Name	Result
White mineral oil (petroleum)	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : May damage the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : May damage fertility.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Route	ATE value
Oral Inhalation (vapors)	10000 mg/kg 220 mg/L

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
White mineral oil (petroleum)	>6	-	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : There is no data available.

Other adverse effects : No known significant effects or critical hazards.

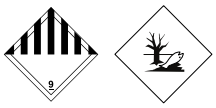
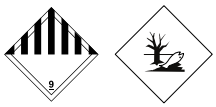
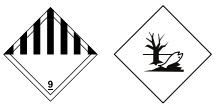
Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	TDG Classification	IMDG	IATA
UN number	UN3082	UN3082	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Castor oil, dehydrated, polymd.)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Castor oil, dehydrated, polymd.). Marine pollutant (Castor oil, dehydrated, polymd.)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Castor oil, dehydrated, polymd.)

Section 14. Transport information

Transport hazard class(es)	9 	9 	9 
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes.
Additional information	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark). Non-bulk packages of this product are not regulated as dangerous goods when transported by road or rail.	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **Emergency schedules (EmS)** F-A, S-F	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

AERG : 171

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : The following components are listed: White mineral oil (petroleum)

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
TOXIC TO REPRODUCTION (Fertility) - Category 1	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 1	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Expert judgment
AQUATIC HAZARD (ACUTE) - Category 2	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 2	Calculation method

History

Date of issue : 08/15/2016

Version : 1

Prepared by : KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships,

Section 16. Other information

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
HPR = Hazardous Products Regulations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Noxudol 700

The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

SECTION 1: Identification of the substance / mixture and of the company / undertaking

Date issued	29.01.2018

1.1. Product identifier

Product name	Noxudol 700
Article no.	37100

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance / preparation	Corrosion inhibitor
Relevant identified uses	SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites PC6 Automotive Care Products*** PC14 Metal surface treatment products, including galvanic and electroplating products,

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name	Auson AB
Postal address	Verkstadsgatan 3
Postcode	S-434 42
City	KUNGSBACKA
Country	SVERIGE
Telephone number	+46 300-562000
Fax	+46 300-562021
Email	nina.nyth@auson.se
Website	http://www.auson.se/
Contact person	Nina Nyth

1.4. Emergency telephone number

Emergency telephone	Telephone number: 112 Description: SOS Alarm

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Skin Sens. 1; H317

2.2. Label elements

Hazard pictograms (CLP)

Composition on the label	Destillate (petroleum), solventdewaxed heavy naphthenic (<3% DMSO) 10 - 15 %, Calcium sulfonate 10 - 15 %, Baseoil - unspecified, Distillates (petroleum), solvent-refined heavy paraffinic (DMSO-extract <3%) 50 - 60 %
Signal word	Warning
Hazard statements	H317 May cause an allergic skin reaction.
Precautionary statements	P102 Keep out of reach of children. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/protective clothing. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P333+P313 If skin irritation or rash occurs: Get medical advice / attention. P501 Dispose of contents at hazardous or special waste collection point.
EC label	Yes
VOC	Product subcategory : Special finishes Relevant VOC limit values: 840 g/l Maximum content of VOC: <28 g/l

2.3. Other hazards

Health effect	May cause an allergic skin reaction.
Other hazards	None

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents	Notes
Destillate (petroleum) , solventdewaxed heavy naphthenic (<3% DMSO)	CAS No.: 64742-65-0 EC No.: 265-169-7	Asp. tox 1; H304	10 - 15 %	
Calcium sulfonate	CAS No.: 61789-86-4 EC No.: 263-093-9 REACH Reg. No.: 01-2119488992-18-xxxx	Skin Sens. 1; H317	10 - 15 %	
2-butanone oxime	CAS No.: 96-29-7 EC No.: 202-496-6 REACH Reg. No.: 01-2119539477-28-0003	Carc. 2; H351 Skin Sens. 1; H317 Eye Dam. 1; H318 Acute tox. 4; H312	< 0,1 %	

Fatty acids, C6-19-branched, cobalt(2+) salts	CAS No.: 68409-81-4 EC No.: 270-066-5	Acute tox. 4; H302 Skin Irrit. 2; H315 Skin Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411 Asp. tox 1; H304	< 0,1 %
2-Ethylhexanoic acid, zirconium salt	CAS No.: 22464-99-9 EC No.: 245-018-1 REACH Reg. No.: 01-2119979088-21-XXXX	Repr. 2; H361fd	< 0,1 %
Baseoil - unspecified, Distillates (petroleum) , solvent-refined heavy paraffinic (DMSO-extract <3%)	CAS No.: 64741-88-4 EC No.: 265-090-8 Index No.: 649-454-00-7		50 - 60 %
Fatty acids, tall-oil, polymers with isophthalic acid, pentaerythritol and tall oil	CAS No.: 68410-37-7 EC No.: -		10 - 15 %
Paraffin waxes and Hydrocarbon waxes	CAS No.: 8002-74-2 EC No.: 232-315-6		< 10 %

Remarks, substance	See section 16 for explanation of hazard statements (H) listed above.
Substance comments	Mineral oil (paraffin base), highly refined (DMSO-extrakt <3%, IP 346) H304 is not required on the label due to the product's viscosity.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Fresh air and rest.
Skin contact	Wash the skin with water and soap.
Eye contact	Flush immediately with water for at least 5 minutes. Keep eye wide open while flushing. Get medical attention if any discomfort continues.
Ingestion	Give water to drink if the affected person is fully conscious. DO NOT INDUCE VOMITING! In an emergency, contact the national Poisons Information Centre.

4.2. Most important symptoms and effects, both acute and delayed

General symptoms and effects	No further relevant information available.

4.3. Indication of any immediate medical attention and special treatment needed

Specific details on antidotes	No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Dry chemical, foam or carbon dioxide (CO2).

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	Not flammable. Combustible.

5.3. Advice for firefighters

Personal protective equipment	Breathing apparatus should be used in fire fighting.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures	Use appropriate protective equipment.

6.2. Environmental precautions

Environmental precautionary measures	Do not allow spill to enter sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Clean up	Collect with absorbent, non-combustible material into suitable containers. Dispose of in accordance with local regulations.

6.4. Reference to other sections

Other instructions	See Section 8 and section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Wear prescribed personal protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Storage	Store in original container. Store at +5 - +40°C. Shelf life 24 months if stored and handled as recommended.

7.3. Specific end use(s)

Specific use(s)	See Section 1.2

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Substance	Identification	Exposure limits	TWA Year
Fatty acids, C6-19-branched, cobalt(2+) salts	CAS No.: 68409-81-4	Limit value (8 h) : 100 mg/m³ Limit value (8 h) : 15 ppm **Limit value (short term)** Value: 200 mg/m³ **Limit value (short term)** Value: 30 ppm	
Baseoil - unspecified, Distillates (petroleum) ,	CAS No.: 64741-88-4	Limit value (8 h) : 1 mg/m³ **Limit value (short term)**	TWA Year: 1990

solvent-refined heavy paraffinic (DMSO-extract <3%)	Value: 3 mg/m³

DNEL / PNEC

Summary of risk management measures, human	No information available.
Summary of risk management measures, environment	No information available.

8.2. Exposure controls

Safety signs

Precautionary measures to prevent exposure

Appropriate engineering controls	Wash hands before breaks and at the end of workday. Avoid contact with skin and eyes. Eye wash facilities and emergency shower must be available when handling this product.

Eye / face protection

Suitable eye protection	Wear approved, tight fitting safety glasses where splashing is probable.

Hand protection

Skin- / hand protection, short term contact	Protective gloves must be used if there is a risk of direct contact or splashes.
Suitable materials	Nitrile rubber.
Breakthrough time	Value: > 480 min Comments: Change protective gloves regularly in order to avoid penetration problems.
Thickness of glove material	Value: ≥ 0,38 mm

Skin protection

Skin protection remark	Wear protective clothing as needed.

Respiratory protection

Respiratory protection necessary at	Use respiratory protection when handling the product in confined areas.
Recommended respiratory protection	Filter apparatus type: Respirator with A filter (brown).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Waxy substance.
Colour	Light brown
Odour	Slight.
Odour limit	Comments: Not determined.
Melting point / melting range	Comments: Not determined.
Boiling point / boiling range	Value: > 200 °C
Flash point	Value: > 100 °C
Vapour pressure	Comments: No data recorded.
Density	Value: 910 -950 kg/m³ Temperature: 20 °C
Solubility	Comments: Soluble in organic solvents.
Partition coefficient: n-octanol/ water	Comments: Not determined.

9.2. Other information

Other physical and chemical properties

Comments	No further relevant information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	The chemical is stable at the given use and storing conditions.

10.2. Chemical stability

Stability	Stable with normal handling.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid	No information available.

10.5. Incompatible materials

Materials to avoid	No hazardous reactions known.

10.6. Hazardous decomposition products

Hazardous decomposition products	No formation of hazardous decomposition products are expected under normal conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Substance	Baseoil - unspecified, Distillates (petroleum), solvent-refined heavy paraffinic (DMSO-extract <3%)
Acute toxicity	**Type of toxicity:** Acute **Effect tested:** LD50 **Route of exposure:** Oral **Value:** > 2000 mg/kg **Type of toxicity:** Acute **Effect tested:** LD50 **Route of exposure:** Dermal **Value:** > 2000 mg/kg

Other information regarding health hazards

Acute toxicity, human experience	Not classified.
Skin corrosion / irritation, human experience	May cause an allergic skin reaction.
Eye damage or irritation, human experience	Reliable information on eye effects is lacking. There is no reason to suspect such effects, but handle it with care and report any symptoms or injuries to the manufacturer or the distributor
Inhalation	Inhalation of high vapour concentrations may cause symptoms such as headache, dizziness, fatigue, nausea and vomiting.
Skin contact	Defats the skin.
Eye contact	Stinging.
Ingestion	May cause: Abdominal pains. Vomiting.
Assessment of germ cell mutagenicity, classification	The chemical structure does not suggest a mutagenic effect.
Carcinogenicity, other information	Does not present any cancer or reproductive hazards.
Reproductive toxicity	The chemical structure does not suggest such an effect.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	Ecotoxicity data are not known for this product.

12.2. Persistence and degradability

Persistence and degradability, comments	Not readily degradable.

12.3. Bioaccumulative potential

Bioaccumulative potential	Has the potential to bioaccumulate.

12.4. Mobility in soil

Mobility	No data available.

12.5. Results of PBT and vPvB assessment

PBT assessment results	The product does not contain any PBT or vPvB substance.

12.6. Other adverse effects

Other adverse effects, comments	Does not cause long term adverse effects in the aquatic environment.
Environmental details, summation	Not considered dangerous for the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal	Dispose of in compliance with local regulations.
EWC waste code	EWC waste code: 130205 mineral-based non-chlorinated engine, gear and lubricating oils Classified as hazardous waste: Yes
EWL packing	Classified as hazardous waste: No
Other information	EWC code is only a suggestion, final consumer selects a suitable EWC code.

SECTION 14: Transport information

Dangerous goods	No

14.1. UN number

Comments	Not classified as hazardous for transport.

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture

EEC-directive	2006/121/2006
Biocides	No
Nanomaterial	No
References (laws/regulations)	The product is classified and labelled in accordance with EEC guidelines or

	national legislation.
Legislation and regulations	Regulation (EC) nr. 2015/830 Regulation (EC) nr. 1272/2008.

15.2. Chemical safety assessment

Chemical safety assessment performed	No

SECTION 16: Other information

Supplier's notes	These data are based on our best knowledge to date, however they do not imply any guarantee on the properties or quality of the product.
List of relevant H-phrases (Section 2 and 3)	H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H351 Suspected of causing cancer H361fd Suspected of damaging fertility. Suspected of damaging the unborn child. H411 Toxic to aquatic life with long lasting effects.
Version	11
Expired date	29.01.2021

SAFETY DATA SHEET

ThreeBond6154D (480ml) Aerosol

Section 1. Identification

Product identifier : ThreeBond6154D (480ml) Aerosol

Other means of identification : Not available.

Product type : Aerosol.

Identified uses : Maintenance for automobile.

Supplier/Manufacturer : Würth Canada Limited
6330, Tomken Road
Mississauga, ONT
L5T 1N2, Canada
Tel: (905) 564-6225

Emergency telephone number (with hours of operation) : CANUTEC: +1-613-996-6666 or *666 (cellular)
(24/7)

Section 2. Hazard identification

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GERM CELL MUTAGENICITY - Category 1
CARCINOGENICITY - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H222 - Extremely flammable aerosol.
H229 - Pressurized container: may burst if heated.
H340 - May cause genetic defects.
H350 - May cause cancer.
H372 - Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS))
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazard identification

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 - Do not spray on an open flame or other ignition source.
P273 - Avoid release to the environment.
P260 - Do not breathe dust or mist.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.
P251 - Do not pierce or burn, even after use.

Response : P391 - Collect spillage.
P314 - Get medical attention if you feel unwell.
P308 + P313 - IF exposed or concerned: Get medical attention.

Storage : P405 - Store locked up.
P410 - Protect from sunlight.
P412 - Do not expose to temperatures exceeding 50°C/122°F.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification/ HHNOC/PHNOC : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	% (w/w)	CAS number
Naphtha (petroleum), hydrodesulfurized heavy	30 - 60	64742-82-1
Nonane	3 - 5	111-84-2
Carbon black, respirable powder	0.3 - 1	1333-86-4

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Section 4. First-aid measures

Skin contact : Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Section 5. Fire-fighting measures

Specific hazards arising from the chemical : Extremely flammable aerosol. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid breathing gas. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Nonane	**CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 1050 mg/m³ 8 hours. 8 hrs OEL: 200 ppm 8 hours. **CA British Columbia Provincial (Canada, 5/2015).** TWA: 200 ppm 8 hours. **CA Ontario Provincial (Canada, 7/2015).** TWA: 200 ppm 8 hours. TWA: 1050 mg/m³ 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 200 ppm 8 hours. TWAEV: 1050 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada).** STEL: 250 ppm 15 minutes. TWA: 200 ppm 8 hours.
Carbon black, respirable powder	**CA British Columbia Provincial (Canada, 5/2015).** TWA: 3 mg/m³ 8 hours. Form: Inhalable **CA Ontario Provincial (Canada, 7/2015).** TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction **CA Alberta Provincial (Canada, 4/2009).** 8 hrs OEL: 3.5 mg/m³ 8 hours. **CA Quebec Provincial (Canada, 1/2014).** TWAEV: 3.5 mg/m³ 8 hours. **CA Saskatchewan Provincial (Canada).** STEL: 7 mg/m³ 15 minutes. TWA: 3.5 mg/m³ 8 hours.

Section 8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid. [Aerosol.]

Color : Black.

Odor : Slight.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: 43°C (109.4°F) [Tagliabue.]

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 0.85

Solubility : Slightly soluble in water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Dynamic (room temperature): 2300 mPa·s (2300 cP)

Aerosol product

Type of aerosol : Spray

Heat of combustion : 20.99 kJ/g

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Nonane	LC50 Inhalation Gas. LC50 Inhalation Vapor	Rat Rat	3200 ppm 17000 mg/m³	4 hours 4 hours
Carbon black, respirable powder	LD50 Oral	Rat	>15400 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Nonane	Skin - Mild irritant Skin - Moderate irritant	Pig Rat	- -	24 hours 250 µL 96 hours 300 µL	- -

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Section 11. Toxicological information

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Carbon black, respirable powder	-	2B	-	A3	-	+

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Nonane	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Naphtha (petroleum), hydrodesulfurized heavy	Category 1	Not determined	central nervous system (CNS)

Aspiration hazard

Name	Result
Naphtha (petroleum), hydrodesulfurized heavy Nonane	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
irritation
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : May cause genetic defects.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Inhalation (gases) Inhalation (vapors)	88960 ppm 472.6 mg/L

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Carbon black, respirable powder	Acute EC50 37.563 mg/L Fresh water	Daphnia - Daphnia magna - Neonate	48 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Naphtha (petroleum), hydrodesulfurized heavy Nonane	- 5.65	10 to 2500 105	high low

Mobility in soil

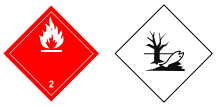
Soil/water partition coefficient (K_{OC}) : There is no data available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	TDG Classification	IMDG	IATA
UN number	UN1950	UN1950	UN1950
UN proper shipping name	Aerosols, flammable (each not exceeding 1 L capacity)	Aerosols, flammable (each not exceeding 1 L capacity). Marine pollutant (Nonane)	Aerosols, flammable (each not exceeding 1 L capacity)
Transport hazard class(es)	2.1 	2.1 	2.1 
Packing group	-	-	-
Environmental hazards	Yes.	Yes.	No.
Additional information	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** F-D, S-U	The environmentally hazardous substance mark may appear if required by other transportation regulations.

AERG : 126

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : The following components are listed: Dimethyl ether; Nonane

CEPA Toxic substances : None of the components are listed.

Canada inventory : At least one component is not listed in DSL but all such components are listed in NDSL.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GERM CELL MUTAGENICITY - Category 1	Calculation method
CARCINOGENICITY - Category 1	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 2	Calculation method

History

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Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
HPR = Hazardous Products Regulations

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