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UPCOMING DATES TO REMEMBER:

September 5 - Labor Day



SOCIAL MEDIA COMMENTS:



**MITSUBISHI
MOTORS**

TECH TALK - VOLUME 269

July - August 2022

TECHNICAL INFORMATION

CABIN AIR FILTER REPLACEMENT SUGGESTIONS TO PREVENT ABNORMAL NOISE

When replacing a cabin air filter with a new one, please pay attention to prevent the leaves from falling out of the filter.

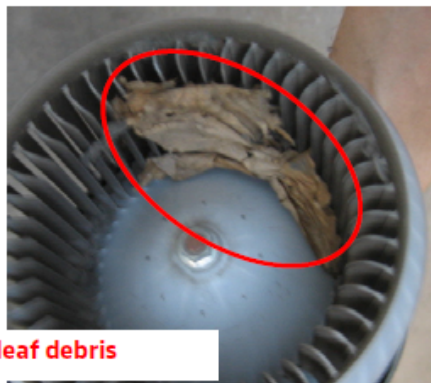
If the leaves fall out and drop into the blower motor fan and/or the evaporator, the blower motor may make an abnormal noise .

Please check the blower motor to ensure no leaves and/or other contaminants are present. This will lessen the chance of abnormal noise complaints.

Leaves may drop down from the top of the Cabin Air Filter when removing it:



Cabin Air Filter



Blower Motor Fan

Remove leaf debris



Axle Assembly Replacement/Rear Alignment Specifications 2014 – 2015 Mirage, 2016–2023 Mirage, and Mirage G4

In Tech Talk Volume 218 from August of 2015, there was an article on Axle Assembly Replacement for the 2014 to 2015 Mirage. Technicians were advised to correctly torque the attaching bolts and not to use air tools when installing the rear axle.

MMNA would also like to clarify the Rear Alignment Specifications given in the Service Manual for the Mirage and Mirage G4. The rear toe of the Mirage and Mirage G4 is not adjustable as it has a solid rear axle with a fixed spindle. The Service Manual does not give a specification for Thrust Angle, only Total Toe. The specification for Total Toe is 0.10 ± 0.12 inches. Expressed in degrees, the Total Toe specification is anywhere between $-.050^{\circ}$ and $.55^{\circ}$. Technicians should note that deviations in Thrust Angle are a characteristic of the vehicle. MMNA does not recognize the alignment specifications of third parties when they are not consistent with Service Manual Alignment Specifications. When the total toe is within factory specification, no repairs are necessary. Lack of tire rotations will give the appearance that there is an alignment concern.

Hands Free Module/Keyless Operating System

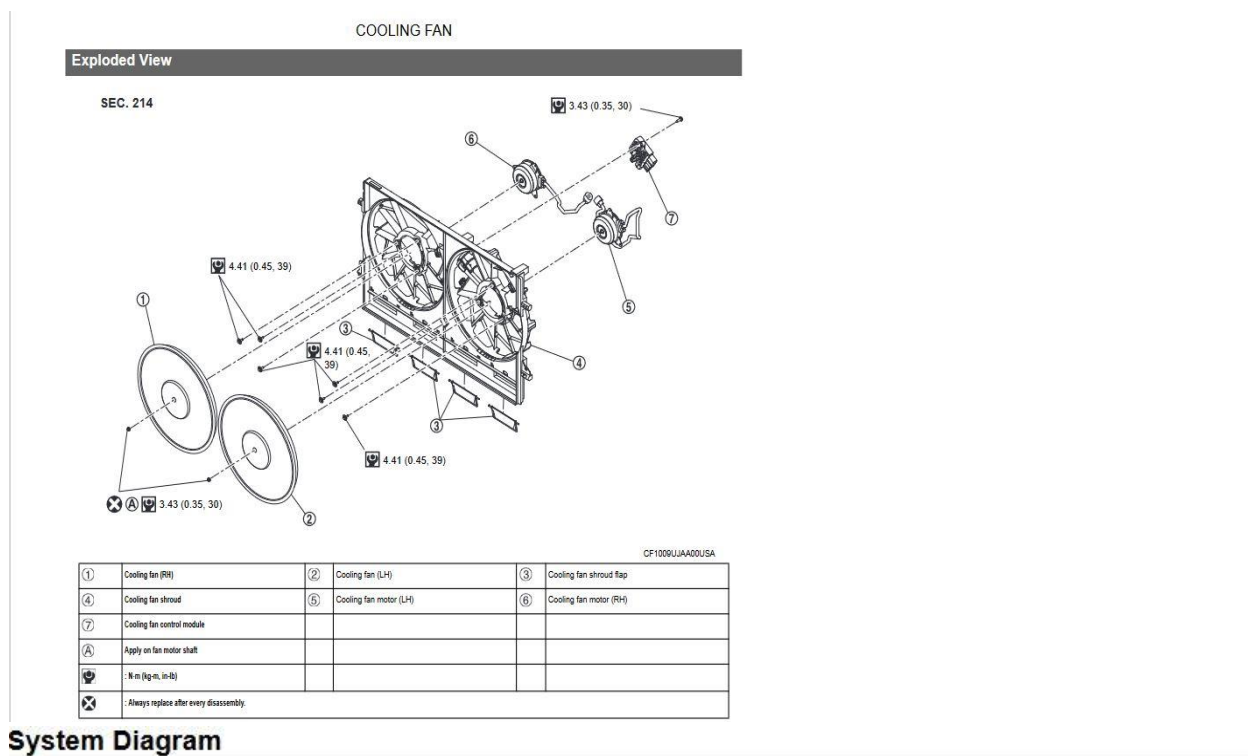
When replacing the Hands Free Module (HFM)/Keyless Operating System (KOS) on the 2022 Outlander for wireless charger inoperable (TSB 21-54-006), the procedure in "ID Codes Registration Instructions" fails to mention the "automatic configuration" step. The technician will receive an error message when trying to replace the HFM/KOS if the automatic configuration is not completed. The procedure listed below may help the technician. After installation of the new KOS/HFM, take the following steps to establish communication with the new KOS:

- Turn hazard lights on
- Enter vehicle type (GM4W)
- Enter Vehicle Class (Previously recorded but also can be found stamped on passenger front door opening)
- Enter Model Year (As needed)
- Enter Model (Outlander GM#)
- Perform Auto Configuration for the new KOS/HFM (This step should be done before step 8 in the instructions found on MDL:
MDL/Service/Service Tech Resources/ID Codes Registration
Instructions/2022 Outlander

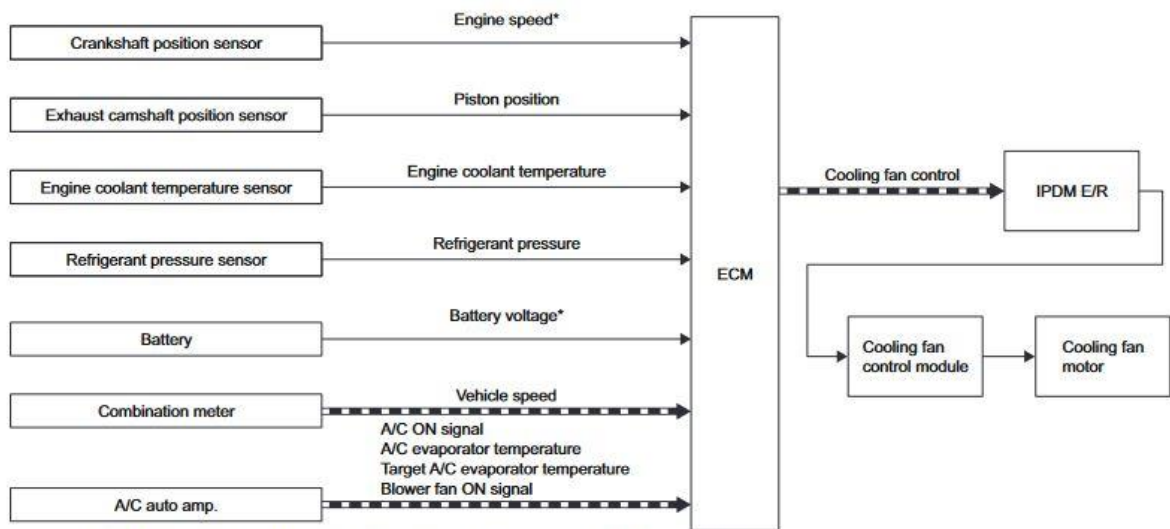
2022 Outlander Fan Speed Controller Tips

We have seen some instances of inoperative or intermittent engine cooling fan operation. Some of the complaints heard may be: diminished A/C performance, especially at a stop or at slow speeds, or engine overheating.

If a vehicle comes in with those or similar conditions, please verify that the cooling fans are operating correctly. Keep in mind that some of the failures have been related to vehicle idling for extended periods, such as long lines at a drive through or in other similar conditions. Asking a few extra questions at the time of vehicle write up may save diagnostic time and result in a more accurate repair.



System Diagram



* : ECM determines the start signal status by the signals of engine speed and battery voltage.

---> : This signal is sent via the CAN communication line.

2022 Outlander Fan Speed Controller Tips (Continued)

System Description

Cooling fan control signal is sent to IPDM E/R from ECM by CAN communication line. Then, IPDM E/R sends ON/OFF pulse duty signal to the cooling fan control module. Corresponding to this ON/OFF pulse duty signal, cooling fan control module gives cooling fan motor operating voltage to cooling fan motors. Cooling fan speed is controlled by duty cycle of cooling fan motor operating voltage sent from cooling fan control module. Cooling fan actuation information is available in the 2022 Outlander Service Manual, Vol 4, Section 54 (Power Control System). M.U.T.-III SE reference values begin on page 19.

Cooling fan speed for cooling the engine is judged based on vehicle speed, engine coolant temperature, air conditioner ON signal, refrigerant pressure, target A/C evaporate temperature, and A/C evaporator temperature.

Alignment Reminder For All Vehicles

Please remember to follow the procedures outlined in TIN-21-37-001REV every time you perform an alignment on a Mitsubishi vehicle under warranty. This information is critical to addressing alignment issues with the manufacturer. Thank you.

AIR CONDITIONING NOISE TROUBLESHOOTING

This article will provide some troubleshooting tips for abnormal air conditioner noises.

When does the noise occur?	What kind of noise?	The part	Presumed cause / mechanism	How to deal with the noise / Remark
All the time when the A/C is ON	A loud rattling noise	Compressor	Compressor lubrication failure. It may be caused by long-time driving with an insufficient gas condition.	Adjusting the amount of refrigerant may eliminate the noise.
When the A/C is ON and engine is in a certain RPM range	A low squealing noise	Compressor	High pressure pipe and/or the condenser vibrate due to changes in the refrigerant pressure. The vibration is transmitted via the pipe clamp to the vehicle.	Adding rubber bushing to the clamps on the pipe, etc. may reduce the noise level.
Shortly after the A/C is turned on	A loud and short rattling noise upon compressor engagement	Compressor	A large amount of liquid refrigerant is accumulating inside the compressor is compressed.	Adjusting the amount of refrigerant may eliminate the noise.
	Clanking / Scraping noise	Magnet clutch	Noise occurs when the A/C is turned on and the hub hits the rotor at the same time. The sound is louder than usual in the following cases: (1) When there is a large gap between the hub and rotor worn surface. (2) When the surface is very rough where the hub and rotor rub against each other.	
	Loud squealing noise	Belt	(1) Low belt tension	Increasing the belt tension may reduce the noise.
			(2) Oil is adhering to the belt	Check whether there is any oil on the belt. Replace if oil is present.
			(3) Misaligned belt	Readjusting the belt alignment.
	Whooping type noise	Expansion valve	Expansion valve vibration caused by bubbles and the compressor discharge pulsation.	Adjusting the amount of refrigerant may eliminate the noise.
	Whistling / whooping type noise	Expansion valve	Refrigerant collides with the channel on the low pressure side inside the expansion valve. This causes additional vibration to the expansion valve body. The vibration is transmitted to the pipe, evaporator and so on, leading to the noise.	Adjusting the amount of refrigerant may eliminate the noise.
When the A/C is ON and engine is in a certain RPM	Rattling noise	Magnet clutch	The DL pulley bearing or the clutch bearing may make the noise when the belt tension changes considerably.	Increasing the belt tension, replacing the belt with a new one may improve the condition. This noise can be heard from the engine compartment.
When the A/C is turned on	Knocking noise	Rubber hose	Rubber hose of the suction pipe resonates with the A/C.	Fixing the rubber hose may reduce the noise. This noise can be heard inside the cabin.
All the time when the A/C is ON	A low squealing noise/Whining noise	Belt	Belt tension decreases and the belt resonates with the engine.	Increasing the belt tension may reduce the noise. This noise can be heard inside the cabin.
The noise occurs at all times regardless if the A/C ON or OFF	Roaring noise	Magnet clutch	(1) Water entered the inside of the bearing (2) Internal damage due to excessive belt tension.	Replace the rotor.
	Whirring noise	Blower motor	Dents and scratches on the bearing.	Replacing the blower motor may eliminate the noise. The noise occurs in all modes/all air volume positions.
	Buzzing noise noticed in the passenger compartment	Blower motor	Due to frequent operation of Hi mode, sparks may cause the surface of commutator become rough. It may lead to the abnormal noise.	Replacing the blower motor may eliminate the noise.
	Humming / Clattering noise noticed in the passenger compartment in various tones	Blower motor	It is presumed that some foreign material entered the blower fan, causing the vibration and abnormal noise.	Removing the foreign material may eliminate the noise.



CLOUDY ENGINE OIL TROUBLESHOOTING

Engine oil sometimes becomes cloudy (Figure 1 & 2) and it adheres to inside the filler cap (Figure 3) on gasoline/diesel/PHEV vehicles. PHEV vehicles have a higher risk for this because the engine is not always running. Investigations reveal that oil cloudiness does not affect the performance of the engine oil or the engine component.



Figure 1

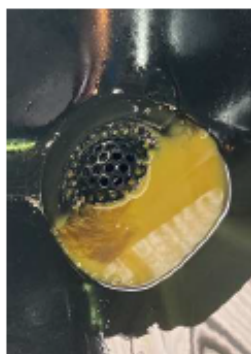


Figure 2



Figure 3

Affected Models: ALL

Cause: Water vapor is generated by combustion and it is incorporated into engine oil. This occurs because the engine oil temperature does not increase enough during short drives, to allow evaporation.



Oil filler cap

Reference Information:

Engine oil cloudiness may be resolved by the evaporation of water vapor on long distance driving. For example: The engine oil temperature increases sufficiently to cause the water to evaporate during long distance driving.



Figure 4

Note: Confirm coolant condition in the reserve tank and note whether there is any discoloration and/or level change according to the workshop manual (Figure 4).

If there is a change to coolant condition, it may not be related to the engine oil cloudiness.

UNPAINTED AREAS ON BOTTOM BUMPER FLANGE

Some areas of the bottom bumper flange are unpainted due to the use of a special tool during the painting process. The areas are invisible by ordinary use and there is no rust concern. Please explain this to customers who may inquire about the condition.

Affected Vehicles:

OUTLANDER

OUTLANDER PHEV

Unpainted Area of Front Bottom Bumper



UNPAINTED AREAS ON BOTTOM BUMPER FLANGE (Continued)

Unpainted Area of Rear Bottom Bumper



INSTALLATION PROCEDURE FOR THE CHARGING PORT INLET PACKING ON PHEV

If the inlet packing on the quick charging port comes off, re-install it according to the steps in the workshop manual. When charging on a rainy or snowy day, the water may get into the terminals and cause the electric leakage.

Installation Procedure of the Inlet Packing (Workshop Manual):

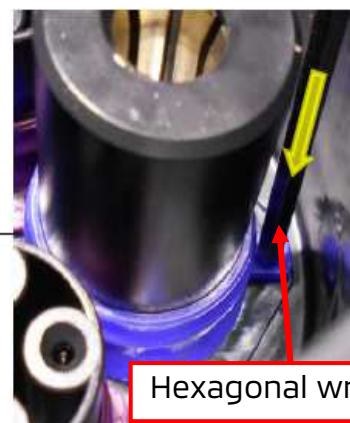
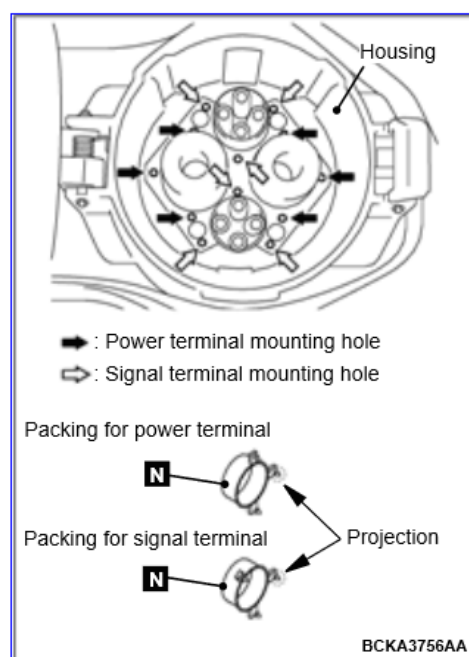
danger	When servicing the high-voltage system parts, be sure to wear the specified protection equipment and disconnect the service plug to interrupt the high-voltage supply
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1. Install the packing by aligning it with the mounting hole of the housing.

caution	- Do not use a sharp tool when installing the packing. Otherwise, the packing may be damaged. - Make sure that the projection of the packing is fit securely into the mounting hole of the housing.
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2. Using a flat-tipped bar such as a hexagonal wrench, press the projection of the packing into the mounting hole of the housing.

REPLACEMENT OF THE INLET PACKING

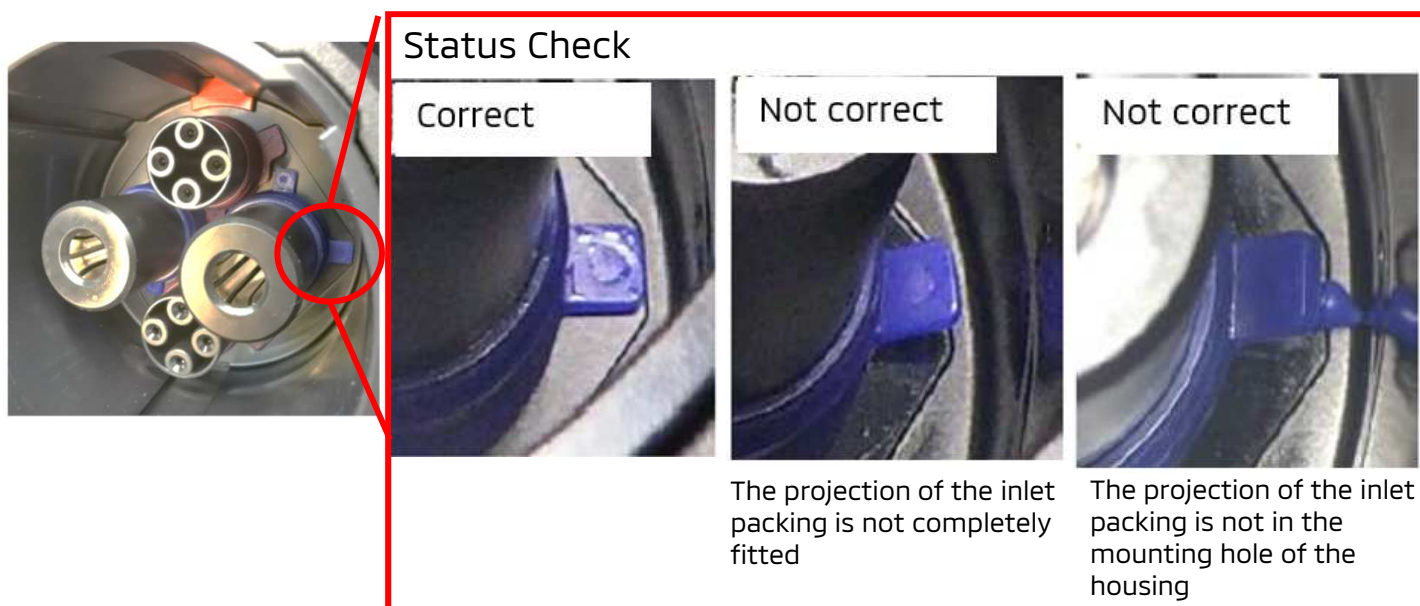


Make sure to push the projection of the inlet packing into the hole in the housing.

Status Check:

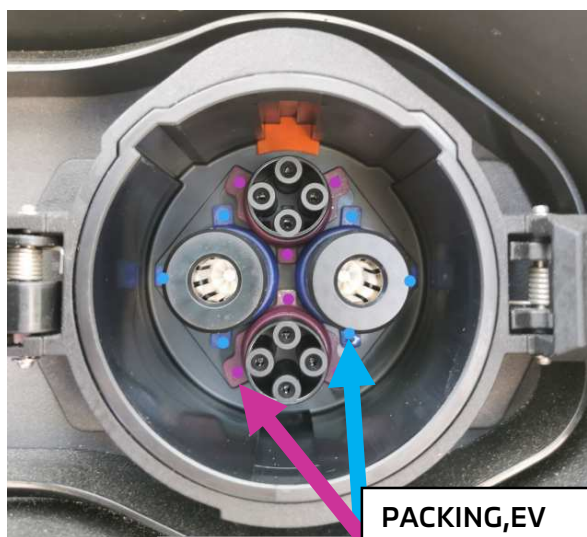
After re-installing the inlet packing, check the installation status according to following figures. If the projection is not in the assembly hole, the inlet packing will float.

INSTALLATION PROCEDURE FOR THE CHARGING PORT INLET PACKING ON PHEV - (Continued)

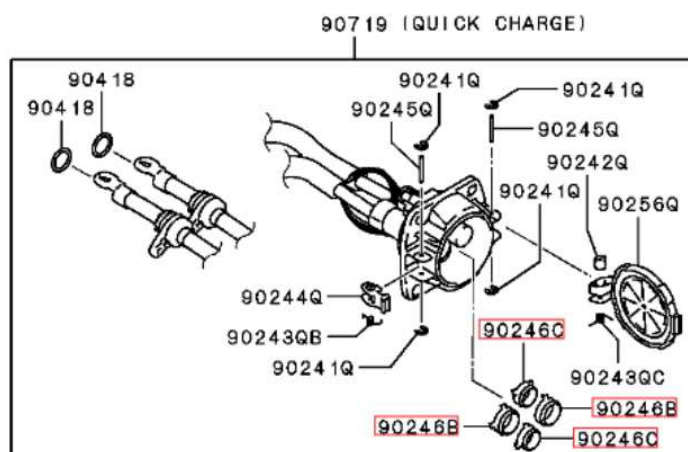


If a part is lost, spare parts are available. Part numbers are different for each models.

PNC	Parts Name
90246	PACKING,EV POWER WIRING



ASA-CAPS:



REGISTRATION ERROR WHEN ADDING A KOS KEY

When KOS software is being updated, and the part numbers of KOS key and KOS-ECU are changing: The old and new part numbers are NOT COMPATIBLE, so if you try to additionally register the KOS key with different part number, "SKC Writing error (\$ 05)" or "KOS key communication error (\$ 00)" will be displayed and registration is not possible.

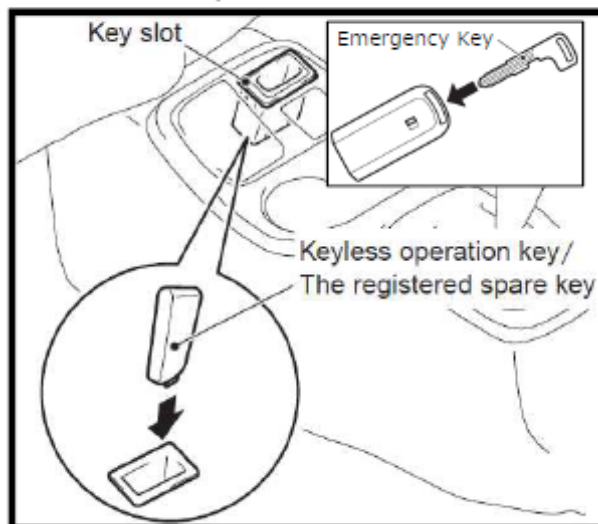
When purchasing a new KOS key, enter the VIN on ASA-CAPS to order a suitable key for the vehicle.

If an error occurs even though you are using a correct key>
Please diagnose the vehicle according to workshop manual to identify the cause.

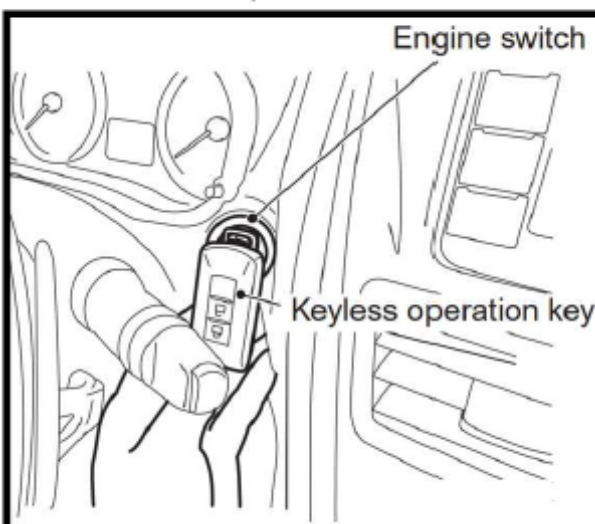
Reference Information: How to register a new KOS key:
On M.U.T.-III SE, register a new keyless operation key by inserting the keyless operation key into a key slot or touching the engine switch with the keyless operation key.



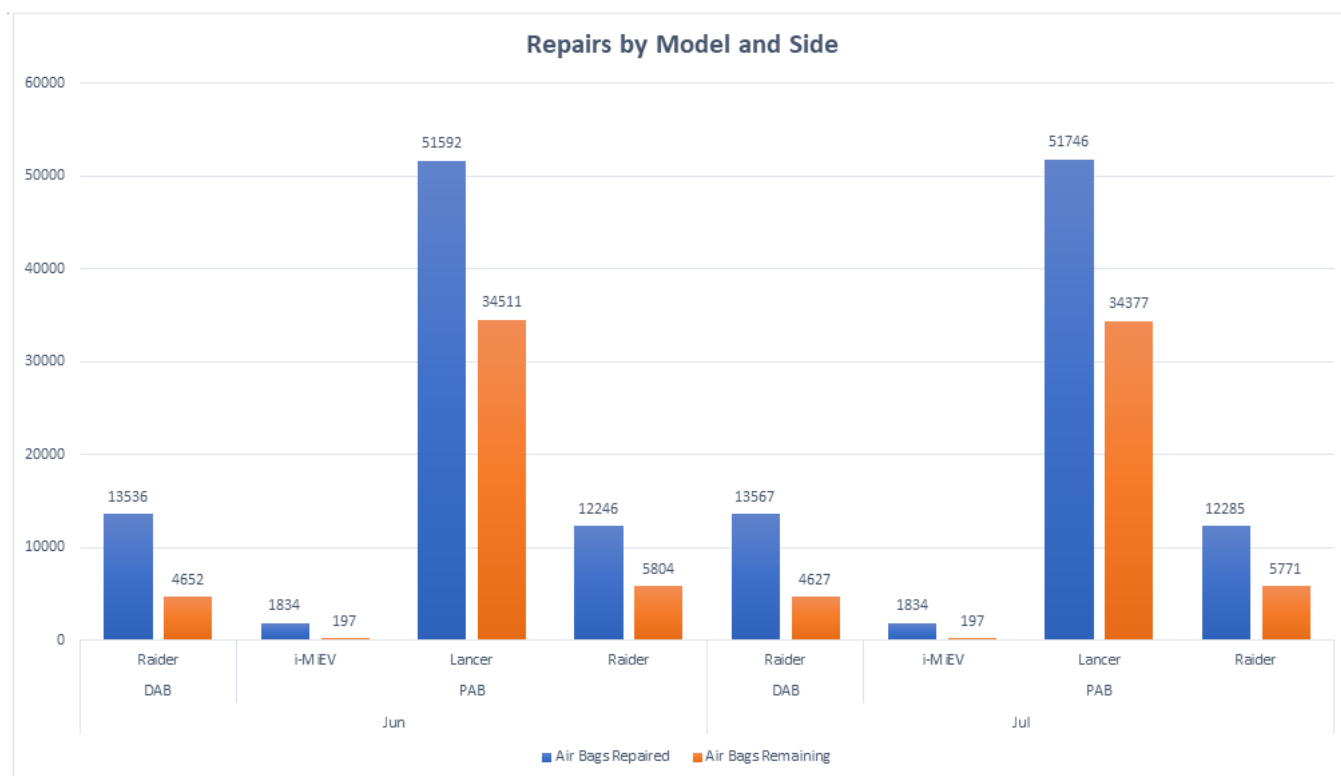
Models with Key Slot:



Models without Key Slot:



TAKATA RECALL KEY STATISTICS



Month	DAB Remaining	PAB Remaining
June	4,652	40,512
July	4,627	40,345
Repaired	25	167

TOP TWO DEALERS FOR TAKATA RECALL COMPLETION:

**WEST HOUSTON MITSUBISHI and
COMMERCE MITSUBISHI**

CONGRATULATIONS!





Atlanta Technical Training Center - Southeast Region

801 Interstate West Parkway, Lithia Spring, GA 30122
(770) 732-3000 Airport: Atlanta (ATL)

August '22					September '22				
Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday
1	2	3	4	5	29	30	31	1	2
						CESTT22	CESTT22	ADAS	ADAS
8	9	10	11	12	5	6	7	8	9
	EECS	EECS	EECS	EECS		MED4	STV4	EL1	EL1
15	16	17	18	19	12	13	14	15	16
	MED4	STV4	EL1	EL1					
22	23	24	25	26	19	20	21	22	23
						PHEVTT	PHEVTT	PHEVTT	PHEVTT
29	30	31	1	2	26	27	28	29	30
	CESTT22	CESTT22	ADAS	ADAS		ER1	ER1	ER1	NM221TT

Dallas Technical Training Center - Central/West Region

8100 Mesquite Bend Drive, Irving TX 75063
(972) 401-5930 Airport: Dallas-Fort Worth (DFW)

August '22					September '22				
Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday
1	2	3	4	5	29	30	31	1	2
NM221TT	MED4	STV4	EL1	EL1					
8	9	10	11	12	5	6	7	8	9
						ADAS	ADAS	CC1	CC1
15	16	17	18	19	12	13	14	15	16
	NM221TT	ER1	ER1	ER1		EECS	EECS	EECS	EECS
22	23	24	25	26	19	20	21	22	23
	CESTT22	CESTT22	PHEVTT	PHEVTT					
29	30	31	1	2	26	27	28	29	30
						CES22TT	CES22TT	NM221TT	NM221TT

Course Title	Days	Code	Prerequisites
Engine & Emission Control Systems (ILT)	4	EECS	ES1W, EL1, STV4, MED4, ME3W
Engine Repair (ILT)	3	ER1	ES1W, EL1, STV4, MED4, ME3W
Climate Control (ILT)	2	CC1	ES1W, EL1, STV4, MED4, ME3W
Manual Transaxles & Transfer Cases (ILT)	3	MTT2	ES1W, EL1, STV4, MED4, ME3W
Plug-In Hybrid Electric Vehicle (Virtual)	2	PHEVTT	ES1W, EL1, STV4, MED4, ME3W, PHEVW, R1234W
MEDIC4 (Virtual)	1	MED4	ME3W
STV4 (Virtual)	1	STV4	No Prerequisites
Electrical Systems 1 (Virtual)	2	EL1	ES1W
Advanced Driver Assistance Systems (ILT)	2	ADAS21TT	ES1W, EL1, STV4, MED4, ME3W
Chassis Electrical Systems	2	CES22TT	EL1, STV4, MED4, ME3W, ES1W
New Model Training 2022 Outlander (Virtual)	1	NM221TT	NM221W

Note: Green = Virtual Course / White = Face to Face Instructor Led Training



New Jersey Technical Training Center - Northeast Region
516 Heron Drive, Swedesboro NJ 08085
(856) 467-7100 Airport: Philadelphia (PHL)

August '22					September '22				
Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday
1	2	3	4	5	29	30	31	1	2
	CC1	CC1	ADAS	ADAS		EECS	EECS	EECS	EECS
8	9	10	11	12	5	6	7	8	9
	NM221TT	NM221TT							
15	16	17	18	19	12	13	14	15	16
						MED4	STV4	EL1	EL1
22	23	24	25	26	19	20	21	22	23
NM221TT	PHEVTT	PHEVTT	ADAS	ADAS		CES22TT	CES22TT	CC1	CC1
29	30	31	1	2	26	27	28	29	30
	EECS	EECS	EECS	EECS					

Course Title	Days	Code	Prerequisites
Engine & Emission Control Systems (ILT)	4	EECS	ES1W, EL1, STV4, MED4, ME3W
Engine Repair (ILT)	3	ER1	ES1W, EL1, STV4, MED4, ME3W
Climate Control (ILT)	2	CC1	ES1W, EL1, STV4, MED4, ME3W
Manual Transaxles & Transfer Cases (ILT)	3	MTT2	ES1W, EL1, STV4, MED4, ME3W
Plug-In Hybrid Electric Vehicle (Virtual)	2	PHEVTT	ES1W, EL1, STV4, MED4, ME3W, PHEVW, R1234W
MEDIC4 (Virtual)	1	MED4	ME3W
STV4 (Virtual)	1	STV4	No Prerequisites
Electrical Systems 1 (Virtual)	2	EL1	ES1W
Advanced Driver Assistance Systems (ILT)	2	ADAS21TT	ES1W, EL1, STV4, MED4, ME3W
Chassis Electrical Systems	2	CES22TT	EL1, STV4, MED4, ME3W, ES1W
New Model Training 2022 Outlander (Virtual)	1	NM221TT	NM221W

Note: Green = Virtual Course / White = Face to Face Instructor Led Training



QUOTES

"The man on top of the mountain didn't fall there." -Vince Lombardi

"Leadership is not just what happens when you're there. It's what happens when you're not." -Ken Blanchard

*"Don't judge each day by the harvest you reap but by the seeds that you plant."
-Robert Louis Stevenson*

MMNA WOULD LIKE TO HEAR FROM YOU

If you have any technical information to share or an idea, please let us know! Send an email to: Servicesupport@mmsa.com. Be sure to include: Your name, title, and dealer name.

HISTORY



This Is The True Meaning Behind The Mitsubishi Logo

By Eugenia Akhim

The emblem seems very unassuming, elegant, and simple, but its minimalism communicates more than popular "noisy" marketing campaigns.

To read more click the link: <https://www.hotcars.com/mitsubishi-logo-meaning/>





TSB/TIN/ATIN REVIEW

Since Tech Talk 268, the following bulletins have been published:

PUBLISH DATE	TSB/ATIN/TIN #	SUBJECT	MODELS
6/2/2022	SR-22-002	SEAT BELT AUTOMATIC LOCKING RETRACTOR (ALR) - SAFETY RECALL CAMPAIGN	CERTAIN 2022 OUTLANDER
6/22/2022	TSB-22-13-002	ECM REPLACEMENT PROCEDURE - SERVICE MANUAL REVISION	2022 OUTLANDER
	TSB-21-42A-011REV2	MODIFIED HOOD FOR HOOD FLUTTER - 2022 OUTLANDER - REVISED	2022 OUTLANDER
6/23/2022	TSB-22-00-005	NEW MODEL FEATURES AND SERVICE INFORMATION - 2023 MIRAGE	2023 MIRAGE
	TSB-22-00-006	TECHNICAL SPECIFICATIONS - 2023 MIRAGE	2023 MIRAGE
	TSB-22-00-007	NEW MODEL FEATURES AND SERVICE INFORMATION - 2023 MIRAGE G4	2023 MIRAGE G4
	TSB-22-00-008	TECHNICAL SPECIFICATIONS - 2023 MIRAGE G4	2023 MIRAGE G4
6/24/2023	TIN-22-00-011	STATE OF GEORGIA LETTERHEAD - TAKATA RECALLS	CERTAIN 2004-07 LANCER, 2006-09 RAIDER, AND 2012-17 IMIEV
6/29/2022	TIN-22-31-001	WHEEL VIBRATION INVESTIGATION - 2022 OUTLANDER	2022 OUTLANDER
	TIN-22-00-012	2022 OUTLANDER MUT3-SE/MEDIC SCAN TOOL DIAGNOSTICS	2022 OUTLANDER
7/7/2022	TIN-22-SR-002A	SEAT BELT AUTOMATIC LOCKING RETRACTOR (ALR) SAFETY RECALL CAMPAIGN	CERTAIN 2022 OUTLANDER
	TSB-22-52A-004	DRIVER'S SEAT GRADUALLY AND UNINTENTIONALLY MOVES DOWN	2018-2020 ECLIPSE CROSS AND 2022 ECLIPSE CROSS
7/18/2022	SR-22-003	IMPROPER OPERATION OF AUDIO UNIT - SAFETY RECALL CAMPAIGN	2022 OUTLANDER
	TIN-22-SR-003	IMPROPER OPERATION OF AUDIO UNIT - SAFETY RECALL CAMPAIGN	2022 OUTLANDER

IMPORTANT

Affected new or used vehicle inventory must be repaired before the vehicle is sold or delivered. Dealers must check their vehicle inventory VINs on the Warranty Superscreen to verify whether the vehicle is involved in a recall campaign.

It is a violation of Federal Law for a dealer to sell or deliver a new motor vehicle or any new / used motor vehicle equipment (including a tire) covered by the notification under a sale or lease until the defect or non-compliance is remedied.



NEWS & NOTES



Mitsubishi Motors Reports Second Quarter 2022 Sales, Outlander Sales Performance Continues to Lead the Way
July 01, 2022 – FRANKLIN, Tenn.

- Outlander racks up five consecutive quarters of record retail sales, the best year of sales since the nameplate was introduced in 2002
- Outlander quarterly retail sales up 55.9% compared to Q2 2021
- Outlander PHEV and Eclipse Cross retail sales up year-over-year

Having recently celebrated 40 years of business operations in the United States, Mitsubishi Motors North America, Inc. (MMNA) today reported second quarter 2022 sales. Mirroring similar concerns across the auto industry, supply constraints of many vehicle lines held overall sales to 21,872, a year-over-year decrease. Nevertheless, with Mitsubishi Motors Corporation in Japan working to maximize inventory of the 2022 Outlander for U.S. customers, sales of the company's flagship vehicle bucked the general trend and were up 55.9% versus the same period 2021.

The 2022 Outlander has earned outstanding customer and media accolades since launching in February of 2021. In that time, the seven-passenger SUV marked its best-four consecutive-quarters of retail-only sales since the nameplate was introduced in the U.S. more than 20 years ago. April represented the fourth-best single retail month ever for Outlander.

Other notable sales successes included Eclipse Cross, with 5,712 retail sales in the first half, up 31% over the same period last year, and Outlander PHEV, with 1,126 retail sales across the first half of the year, a 76% improvement over the first half of 2021.

Total vehicle sales across the entire Mitsubishi lineup stands at 21,872 for the quarter, with Outlander representing 46.8% % of total sales by volume – followed by Outlander Sport at 22.4% and Eclipse Cross at 7.9%.

As is the case across the industry, MMNA's dealer partners continue to see inventory impacted by supply chain challenges and remain well below customer demand.



MITSUBISHI COMPANY HISTORY

Mitsubishi's automotive story begins in 1917 when the Mitsubishi Shipbuilding Co., Ltd. introduced its very first car, the Mitsubishi Model-A. Experience Mitsubishi's innovation story for yourself below.

To review 100 Years of Automotive Experience, click the image above.



MITSUBISHI'S CORPORATE SOCIAL RESPONSIBILITY INITIATIVE

Mitsubishi Motors North America's Corporate Social Responsibility (CSR) efforts are grounded in the Three Principles (Sankoryo) of the Mitsubishi Group, which date back more than 140 years. Specifically, "Shoki Hoko," or corporate responsibility to society, teaches us to strive to enrich society, both materially and spiritually, while contributing toward the preservation of the global environment.



Our "Small Batch, Big Impact" Initiative

We've brought this core principle to life with our "Small Batch - Big Impact" initiative, which is based on the idea that small actions can lead to big change. Together with our dealer partners, we intend to redefine the term "CUV" to mean "Community Utility Vehicle." Through a series of vehicle loans to small nonprofits across the country, we intend to support positive change one community at a time.

