Morgan Olson Operator & Service Manual for Keyless Entry Controller Diagnostics
PN 46029044

DELIVERY VEHICLE ★SOLUTIONS

MORGAN ★OLSON.®

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Keyless Unlock with Key Fob

Cab Doors
Press and release button #1.
Curbside and roadside doors unlock for 6-seconds, then relock.

Cargo Doors
Quick press and release button #2.
Bulkhead door unlocks for 6-seconds, then relocks.
Press button #2 and hold for more than 1-second.
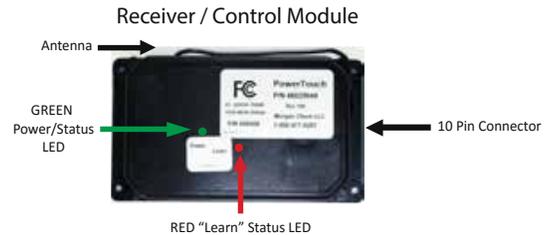Rear door unlocks for 10-seconds, then relocks.

Transmitters / Keyfobs

Cab Switch Unlock
Press and release cab switch on dash.
Curbside and roadside doors unlock
for 6-seconds, then relock.

Receiver / Control Module

Antenna

GREEN
Power/Status
LED

10 Pin Connector

RED "Learn" Status LED

Cargo Switch Unlock
Press and release cargo switch.
Bulkhead and rear doors unlock; bulkhead door relocks in 6-seconds; rear door relocks in 10-seconds.

LED	Operation	Status
Green LED	Flashes once every 5-seconds	System ON
	ON solid	Curbside and roadside doors unlocked (Cab Area)
	Double flashing	Bulkhead and/or rear doors unlocked (Cargo Area)
Red LED	ON solid	Unlock request from unlock switch or fob

Status LED on receiver located over driver door.

Keyfob Replacement & Code Management

Code Enrollment Option 1
1. Unplug 10-pin connector on the receiver, then reconnect it.
2. During the 1st 10-seconds after reconnecting the receiver,
   Press and hold the dash unlock switch for 5-seconds.
   Release the dash switch when you observe the red LED start to flicker flash.
   This means the receiver is in "learn" mode. The receiver will be in "learn" mode for 5-seconds.
3. When the receiver is in "learn" mode, press button # 1 on the hand-held fob.
4. The red LED will double flash indicating the new fob has been enrolled.
5. Press fob button #1 once to test.
   If the green status LED turns on solid for 6-seconds, the fob has been enrolled successfully.

Code Enrollment Option 2
1. Open the receiver by removing the lid.
2. Identify the tact switch location on the PCB, small square component with a round button, which is near relays.
3. Press the tact switch once. The receiver will enter "learn" mode, indicatd by the red "learn" status LED flicker flashing.
   The receiver will remain in "learn" mode for 20-seconds.
4. Press the button on the new hand-held fob.
5. The red LED will double flash indicating the new fob has been enrolled.
6. Press fob button #1 once to test.
   If the green status LED turns on solid for 6-seconds, the fob has been enrolled successfully.

Code Removal OR Code Erase
1. Place receiver into "learn" mode as indicated above in Code Enrollment Option 2.
2. BUT instead of releasing the tact switch button, continue to press and hold it for a full 10-seconds.
3. When all codes are erased, the red "learn" status LED will double flash and exit "learn" mode automatically.
5. All codes will be erased.

Note:
Both code enrollment options 1 & 2 acheive the same results.

Keyless Unlock with Key Fob

Cab Doors

Press and release button #1.

Curbside and roadside doors unlock for 6-seconds, then relock.

Cargo Doors

Quick press and release button #2.

Bulkhead door unlocks for 6-seconds, then relocks.

Press button #2 and hold for more than 1-second.

Rear door unlocks for 10-seconds, then relocks.

Cab Switch Unlock

Press and release cab switch on dash.

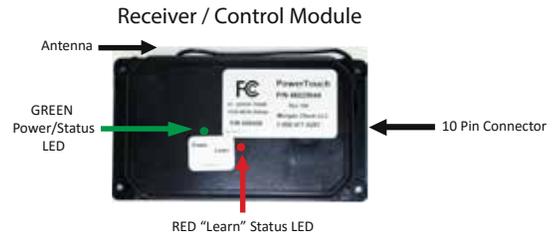Curbside and roadside doors unlock for 6-seconds, then relock.

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Press and release cargo switch.

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Status & Diagnostic LEDs

Green LED

Power Reset
Both Red & Green LED ON for 10-seconds solid.

Quick Learn
Both Red & Green LEDs will turn OFF then Red LED will flicker flash for 5-seconds.
If a new fob is enrolled, it will double flash and turn OFF.

Power
Green status LED flashes once every 5-seconds.

Curbside and Roadside Doors
Green status LED turns on solid while unlocked.

Bulkhead and Rear Doors
Green status LED double flashes while unlocked.

Red LED

Input signals
When any input signal is detected (from fob or switch), the red LED will remain ON solid as long as the signal is present.
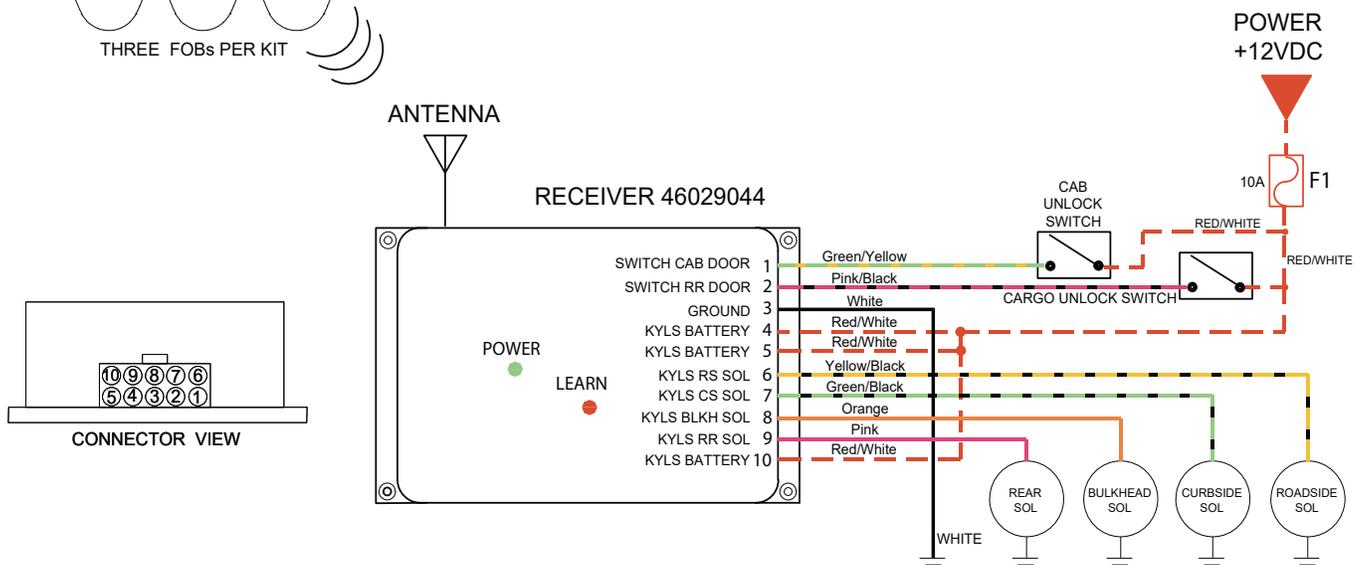
"Learn" Mode
Red LED flicker flashes in "learn" mode and double flashes when a new fob is enrolled or "learn" mode exits.

Error Code for continuous input signal (more than 60 seconds) from switches or RF fob.
- A1 Cab switch - single flash once every 2-seconds.
- A2 Cargo switch - double flash once every 2-seconds.
- RF fob (enrolled) - triple flash once every 2 seconds.

System Specifications	
P/N#46029044 / Model #P1550-R	
RANGE	100 Feet Typical Up to 300 Feet
OUTPUT	4 Relays, Positive, 5A
INPUT	2 Inputs, +12V
FREQUENCY	433 MHz
CODES	Rolling Codes Secure Encryption
VOLTAGE	12VDC
CURRENT	5 Amps Max per Output, (Relay) 10 Amp, Input (Max)
ANTENNA, OPTIONAL	Fixed, Standard (shown)
BATTERY	Coin Style, Lithium, CR2032 100,000 1-second pulses 10 year shelf life

Part Numbers

Transmitter - FOB 46029045

Receiver 46029044

THREE FOBs PER KIT

ANTENNA

POWER +12VDC

RECEIVER 46029044

10A F1

CAB UNLOCK SWITCH

RED/WHITE

CARGO UNLOCK SWITCH

SWITCH CAB DOOR	1	Green/Yellow
SWITCH RR DOOR	2	Pink/Black
GROUND	3	White
KYLS BATTERY	4	Red/White
KYLS BATTERY	5	Red/White
KYLS RS SOL	6	Yellow/Black
KYLS CS SOL	7	Green/Black
KYLS BLKH SOL	8	Orange
KYLS RR SOL	9	Pink
KYLS BATTERY	10	Red/White

POWER

LEARN

CONNECTOR VIEW

10 9 8 7 6
5 4 3 2 1

WHITE

REAR SOL
BULKHEAD SOL
CURBSIDE SOL
ROADSIDE SOL

Trouble Shooting Guide   Morgan Olson - 46029044

Sympton 1
No output from one or more outputs on receiver when transmitter buttons are pressed

Possible Cause	Corrective Actions
1.1 No signal from transmitter	**1.1.1** Verify that transmitter is sending a signal and that transmitter is coded correctly. See Symptom 3.
1.2 One or more of the outputs have failed	**1.2.1** Open receiver and observe yellow LEDs. The yellow output LED should turn ON as long as relay is ON.
	1.2.2 Press each transmitter button in sequence. Using a volt meter, check each output. there should be a +12v present anytime the corresponding transmitter button is pressed. If no outputs, call factory for assistance.
1.3 Receiver outputs OK, but relays or equipment do not operate	**1.3.1** Check wire and equipment for problem.
1.4 Fuse is blown	**1.4.1** Check the F1 fuse in fuse block. If it is blown, replace it.
1.5 Wire harness problem	**1.5.1** Check cab and cargo switch input wire connections on pin 1 and pin 2 wires. If no voltage, correct wiring.

Sympton 2
Receiver is Dead. Does not operate, no green power LED.

Possible Cause	Corrective Actions
2.1 Logic ground or power connection to receiver has failed	**2.1.1** Check logic ground and logic power +12v. Use a voltmeter probe when checking voltage.
	2.1.2 If either ground or power is not present, locate failure in wire harness
2.2 Chassis ground connection has failed	**2.2.1** Check chassis ground connection. It should be clean and tight, no paint on metal, an external tooth star washer should be present, no rust or dirt in connections.
	2.2.2 Chassis ground should be located on vehicle frame or directly to battery.
2.3 Receiver and / or microprocessor has failed	**2.3.1** Check heart beat LED. If it is not flashing the microprocessor has failed. Call factory for assistance (in either case).
	2.3.2 Check yellow output LEDs. If they DO NOT flash each time corresponding channel is activated, the receiver has failed.

Sympton 3
Poor range 0' to 25' (pulsating 0' to 25')

Possible Cause	Corrective Actions

3.1
Antenna damaged or grounded

3.1.1
Check antenna placement. It should not be touching any metal or tinted glass.

3.1.2
It should not be closer than 6-feet to any motors or relays / contactors.

3.1.3
If antenna is cut or damaged, call factory for assistance.

Please Note: Antenna can NOT be shortened or altered in any way.

3.2
Poor ground connection

3.2.1
Remove any paint or residue from metal. Using an external tooth star washer, tighten chassis ground ring terminal securely to vehicle frame.

3.3
Transmitter battery low

3.3.1
Replace battery if voltage is 2.8 volts or below.
All transmitters use: Lithium Coin Style - # CR2032

3.4
Interference

3.4.1
Electromagnetic interference (EMI) can be generated by motors, welding equipment, relays, RF from other radio frequency devices, etc. which may be in close proximity to the receiver or transmitter.

3.4.2
Move closer to antenna or move vehicle out of range of EMI cause by high levels of RF from devices such as welding equipment, as this is a temporary problem.

3.4.3
If EMI is caused by relays, door motors or lift motors then the receiver must be moved or shielded or the EMI noise diverted to ground. Call factory for detaiils / assistance.

3.5
Receiver component damaged or defective

3.5.1
Call factory for assistance.

3.6
Other equipment installed in vehicle causing voltage drop when initially turning on

3.6.1
Remove all other equipment from logic ground and power. Check range. If ok, move other antennas, route wires away from the receiver, move unit away from large motors or run logic power & ground directly from battery.

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<div align="center">Limited Three (3) Year Warranty</div>

Section One

Seller will warrant any product originally manufactured or assembled and sold by seller for a period of up to THREE YEARS.

Section Two

The following are in lieu of all warranties; expressed; implied; or statutory, including but not limited to, any implied warranty of merchantability of fitness for a particular purpose and of any other warranty obligation on the part of seller. Seller, except as otherwise hereinafter provided, warrants the goods against faulty workmanship or defective materials for a period of up to THREE YEARS.

Seller's sole and exclusive liability shall be (at seller's option) to repair; replace; or credit buyer for such goods which are returned by buyer during the applicable warranty period set forth above, provided that (I) seller is promptly notified in writing or by phone upon discovery by buyer that such goods failed to conform and an explanation of any alleged deficiencies, (II) such goods are returned to seller, (III) sellers examination of such goods shall disclose that such alleged deficiencies actually exist and were not caused by accident, misuse, neglect, alteration, improper installation, unauthorized repair or improper testing. If seller elects to repair or replace such goods, seller shall have a reasonable time to make such repairs or replace such goods.

Seller's warranties as herein above set forth shall not be enlarged, diminished, or affected by, and no obligation or liability shall arise or grow out of, sellers rendering of technical advice or service.

Damage to products caused by the customer or during installation cannot be claimed under this warranty. All devices returned that are not covered under the seller's warranty policy, will be charged a minimum of $25.00 for evaluation plus additional charges for components and labor to repair the device not to exceed the original selling price. Seller considers the following to be typical examples of customer or installation damage: burned or broken traces on the printed circuit board, burned or damaged components, dirt or water residue on the printed circuit board or inside the case, modifications by the customer, broken cases or housings and dead batteries.

Section Three

A return material authorization number (RMA) must be issued by seller before any product is returned for evaluation or repair. Warranty repairs must be completed at authorized repair facilities.

FCC Compliance and Advisory Statement. This hardware device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) reorient or relocate the receiving antenna; 2) increase the separation between the equipment and the receiver 3) connect the equipment to an outlet on a circuit different from that to which the receiver is connected; 4) consult the dealer or an experienced radio/TV technician for help. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Where shielded interface cables have been provided with the product or specified additional components or accessories elsewhere defined to be used with the installation of the product, they must be used in order to ensure compliance with FCC regulations.

Canadian DOC Statement. This digital device does not exceed the Class B limits for radio noise emissions from digital apparatus specified in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Déclaration FCC. Cet équipement a été testé et déclaré conforme à la section 15 du règlement de la FCC. Son fonctionnement est soumis aux conditions suivantes: 1) l'équipement concerné ne doit pas causer d'interférences dangereuses, et 2) il doit accepter toute interférence reçue, y compris les interférences risquant d'engendrer un fonctionnement indésirable. Cet équipement a été testé et déclaré conforme aux limitations prévues dans le cadre de la catégorie B des appareils numériques défini par la section 15 du règlement de la FCC. Ces limitations sont stipulées aux fins de garantir une protection raisonnable contre les interférences gênantes en installation résidentielle. Cet équipement génère, utilise et diffuse des ondes radio, et s'il n'est pas installé ni utilisé en conformité avec les instructions dont il fait l'objet, peut causer des interférences gênantes avec les communications radio. Cependant, nous ne pouvons vous garantir qu'une interférence ne se produira pas dans une installation particulière. Si cet équipement produit des interférences graves lors de réceptions radio ou télévisées qui peuvent être détectées en allumant et en éteignant l'équipement, vous êtes invités à les supprimer de plusieurs manières: 1) Réorienter ou déplacer l'antenne de réception; 2) Augmenter la distance séparant l'équipement et le récepteur 3) Connecter l'équipement à un circuit différent de celui auquel le récepteur est connecté; 4) Contacter votre revendeur ou un technicien radio/TV qualifié. Toutes modifications ou tous changements effectués sans l'accord exprès de la partie responsable de la conformité aux normes pourraient contraindre l'utilisateur à ne plus utiliser son équipement. Afin d'assurer la conformité avec les règlements FCC, les câbles d'interface blindés fournis avec le produit doivent être utilisés, ainsi que tout autres composants ou accessoires également spécifiés, lors de l'installation du produit.

Déclaration du Ministère des Communications Canadien. Cet appareil numérique est conforme aux limitations concernant l'émission d'interférences radio par des appareils numériques de catégorie B, telles que stipulées dans le cadre de la norme Appareils numériques ICES-003 édictée par le Ministère canadien de l'industrie.

Cet équipement a été déclaré conforme à la norme RSS-210 édictée par le Ministère canadien de l'industrie. Son fonctionnement est soumis aux conditions suivantes: 1) l'équipement concerné ne doit pas causer d'interférences, et 2) il doit accepter toute interférence reçue, y compris les interférences risquant d'engendrer un fonctionnement indésirable.

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