

TOYOTA HIGHLANDER

2009-

REARSIGHT

Part Number: 00016-00085

Code: MC90



KIT CONTENTS

ITEM	QTY	DESCRIPTION
1	1	MIRROR/MONITOR
2	1	REAR CAMERA ASSEMBLY
3	1	CAMERA EXTENSION HARNESS
4	1	SACK PARTS
5	1	OWNER'S CARD
6	1	MIRROR POWER HARNESS
7		
8		
9		
10		

HARDWARE BAG CONTENTS

ITEM	QTY	DESCRIPTION
1	25	WIRE TIES
2	6	ADHESIVE FOAM
3	3	T-TAP, 18-22AWG
4	2	T-TAP, 14-18AWG
5	1	DOUBLE-SIDED MOLDING TAPE
6	1	SEALING PUTTY
7	1	ALCOHOL PAD
8	1	RUBBER GROMMET
9	1	ADJUSTABLE CABLE COVER
10	1	FUSE HARNESS

ADDITIONAL ITEMS REQUIRED FOR INSTALL

ITEM	QTY	DESCRIPTION
1	N/A	ELECTRICAL TAPE
2		
3		
4		

RECOMMENDED TOOLS

SAFETY TOOLS	
SPECIAL TOOLS	
REAR MOUNTING FIXTURE	
INSTALLATION TOOLS	
FASTENER REMOVAL TOOL	WIRE CUTTERS
TRIM REMOVAL TOOL	TORX-20 WRENCH
10-MM DEEP SOCKET	PLIERS
TORQUE WRENCH (36 IN.LB.)	
SPECIAL CHEMICALS	
SOAPY WATER OF ALCOHOL WATER	


COLOR APPLICABILITY/TRIM LEVEL


[illegible]


GENERAL APPLICABILITY


ALL MODELS


Legend


 **STOP:** Damage to the vehicle may occur. Do not proceed until process has been complied with.

 **OPERATOR SAFETY:** Use caution to avoid risk of injury.

 **CAUTION:** A process that must be carefully observed in order to reduce the risk of damage to the accessory/vehicle and to ensure a quality installation.

 **TOOLS & EQUIPMENT:** Used in Figures calls out the specific tools and equipment recommended for this process.

 **REVISION MARK:** This mark highlights a change in installation with respect to previous issue.

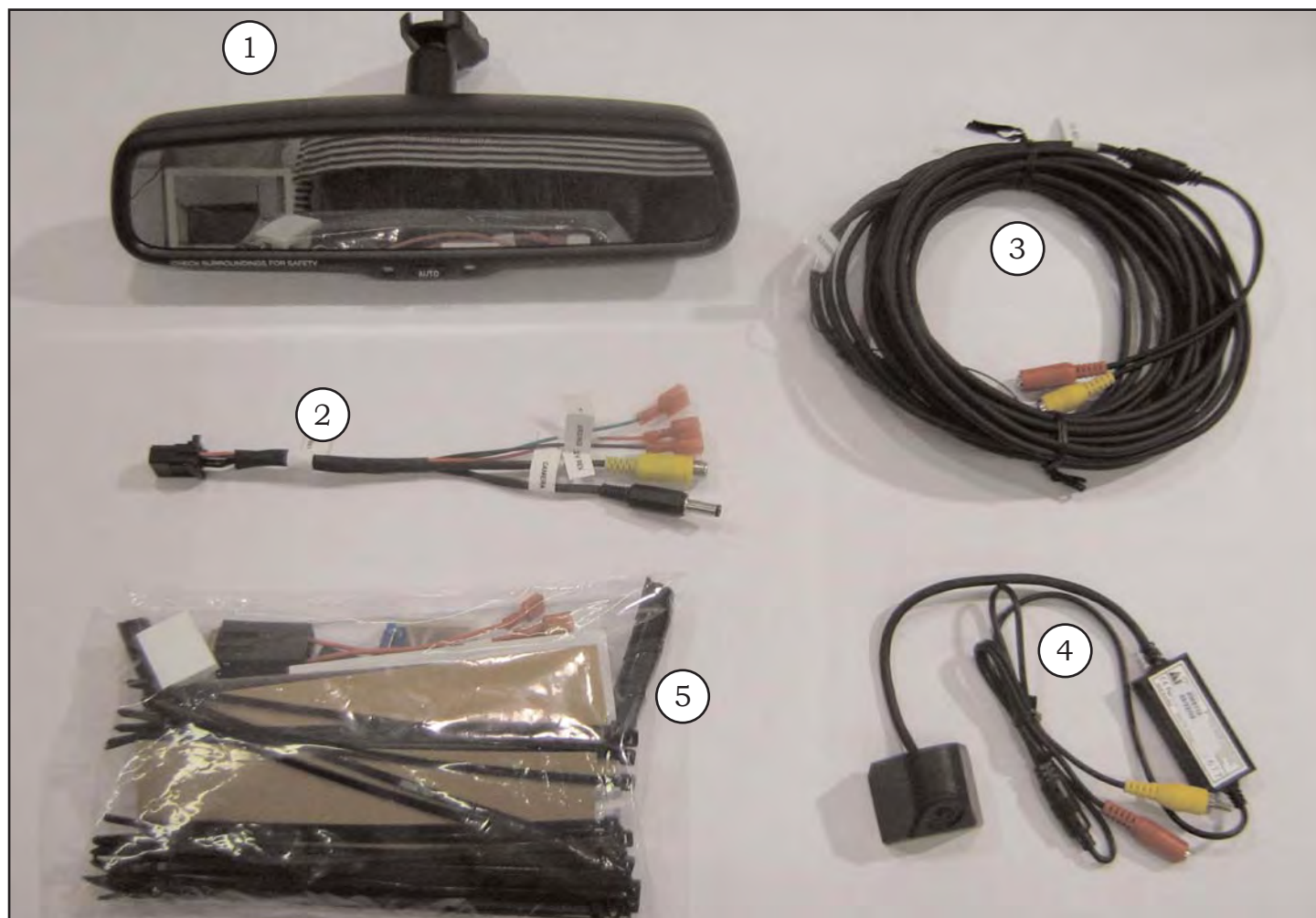
 **SAFETY TORQUE:** This mark indicates that torque is related to safety.

SPECIAL NOTE: Installation Sequences

After TMS and Safety mandated preparatory steps have been taken, the installation sequence is the suggested method for completing the accessory installation. In some instances the suggested sequence is written for one associate to install and in others the sequence is given as part of a team accessory installation. Unless otherwise stated in the document, the associates may perform the installation steps in any order to make the installation as efficient as possible while maintaining consistent quality.

PARTS IDENTIFICATION

ITEM	QUANTITY	PART NUMBER	DESCRIPTION
1	1	00016-00085-01	2.4" REARSIGHT MIRROR
2	1	00016-00085-02	MIRROR ADAPTER HARNESS
3	1	00016-00040-04	CAMERA EXTENSION HARNESS
4	1	00016-00040-02	REAR CAMERA ASSEMBLY
5	1	00016-00040-03	SACK PARTS: TIE STRAPS, T-TAPS, SEALING PUTTY



***BEFORE** BEGINNING INSTALLATION, FAMILIARIZE YOURSELF WITH THE INSTALLATION INSTRUCTIONS AND THE **REARSIGHT™** BACK-UP CAMERA SYSTEM COMPONENTS.

VEHICLE PREPARATION



CAUTION: It is advisable to disconnect the negative battery cable for 3 minutes before beginning installation, to avoid unintended air bag deployment. Note and record any anti-theft radio codes prior to disconnecting.



VEHICLE PREPARATION



1. REMOVE THE MIRROR BASE COVER. PULL THE LEVER IN THE DIRECTION INDICATED BY THE ARROW SHOWN AND SLIDE THE INNER REAR VIEW MIRROR ASSEMBLY UPWARD TO REMOVE.

FIGURE 1

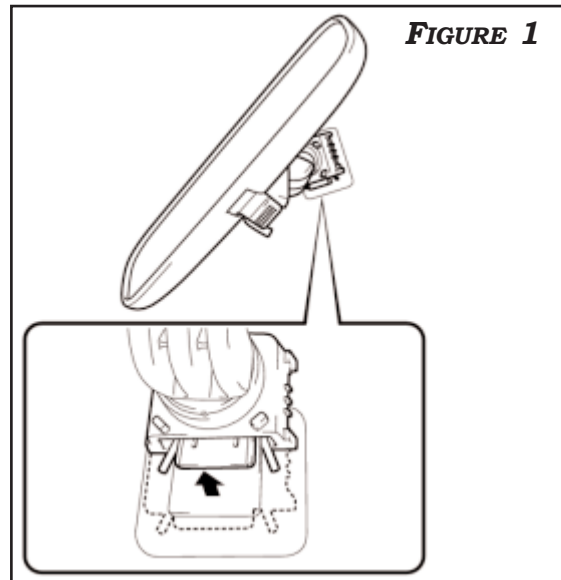


FIGURE 1

2. USE A TRIM TOOL TO DISENGAGE THE 2 CLIPS AND DISCONNECT THE CONNECTOR TO REMOVE THE MAP LIGHT ASSEMBLY. **FIGURE 2**

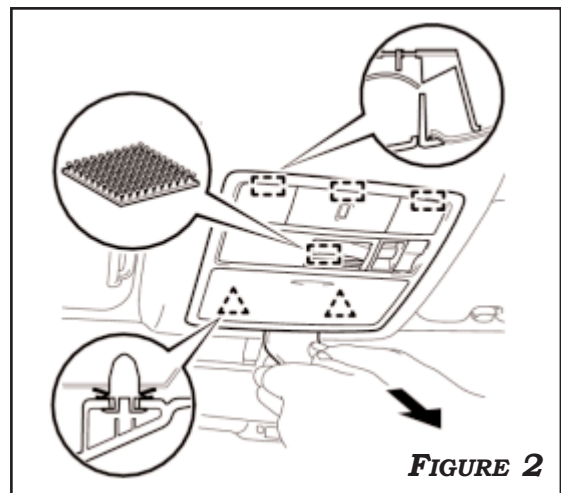


FIGURE 2

3. DISENGAGE THE 8 CLIPS AND REMOVE THE DRIVER SIDE DOOR SCUFF PLATE. DISENGAGE THE CLIP AND GUIDE, AND REMOVE THE KICK PANEL. **FIGURE 3**

4. REMOVE 2 BOLTS AND DISENGAGE CLIPS. DISCONNECT EACH CONNECTOR AND HOOD CABLE ASSEMBLY TO REMOVE THE LOWER INSTRUMENT FINISH PANEL. **FIGURE 4**

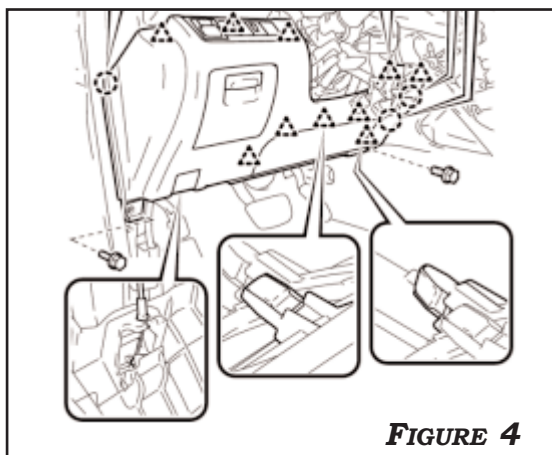


FIGURE 4

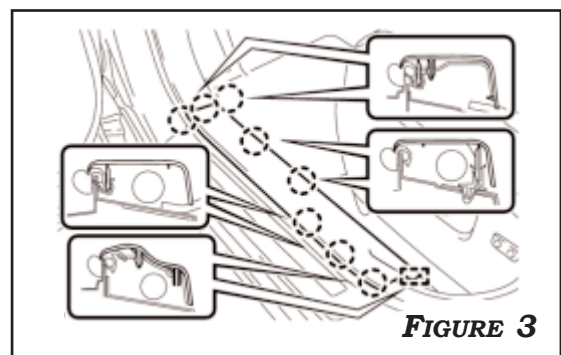


FIGURE 3

VEHICLE PREPARATION

VEHICLE PREPARATION CONTINUED...



5. USE NEEDLE NOSE PLIERS TO TURN AND RELEASE CLIP A. DISENGAGE 2 CLIPS TO REMOVE THE LEFT FRONT PILLAR. **FIGURE 5**

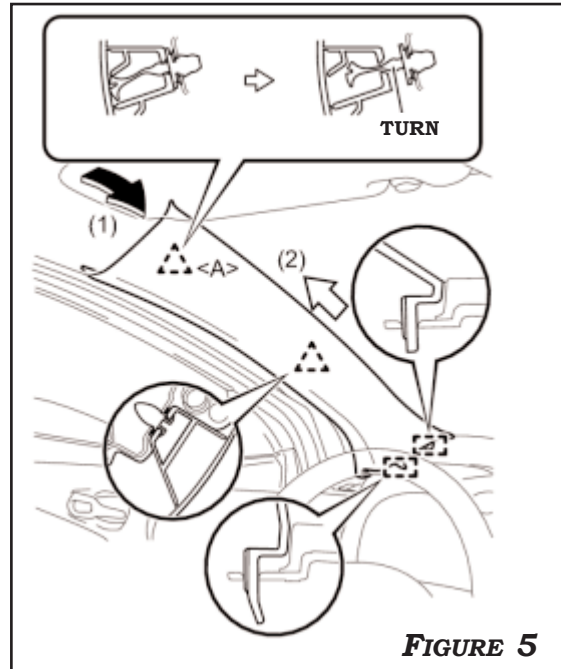


FIGURE 5

6. DISENGAGE THE 8 CLIPS AND REMOVE THE LEFT REAR DOOR SCUFF PLATE. **FIGURE 6**

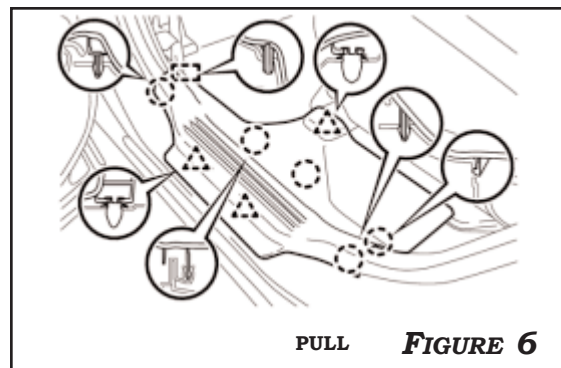


FIGURE 6

7. REMOVE THE DECK BOARD ASSEMBLY. REMOVE LEFT CARGO COMPARTMENTS AND PANELS. **FIGURE 7**

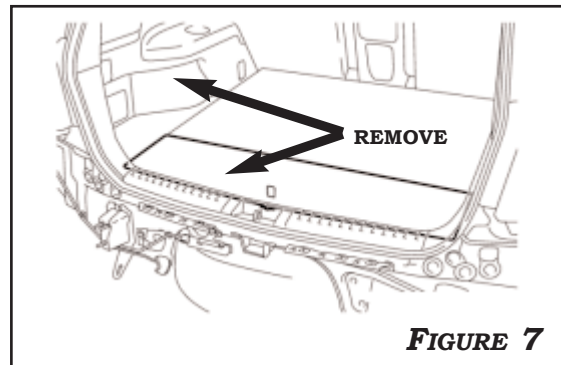


FIGURE 7

8. REMOVE THE BOLT AND ASSIST STRAP. REMOVE ALL BACK DOOR TRIM COVERS. **FIGURE 8**

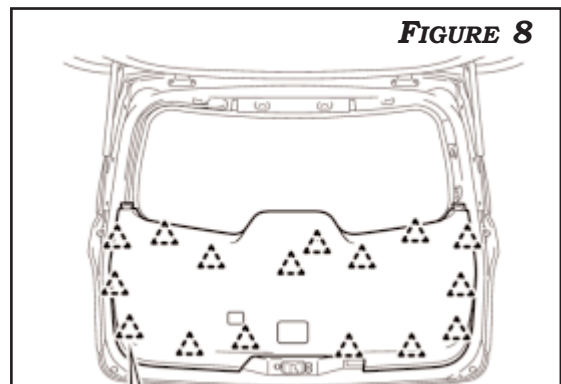


FIGURE 8

9. REMOVE (5) 10MM NUTS, DISCONNECT CONNECTORS, AND DISENGAGE THE CLIPS TO REMOVE THE BACK DOOR OUTSIDE GARNISH SUB-ASSEMBLY. **FIGURE 9**

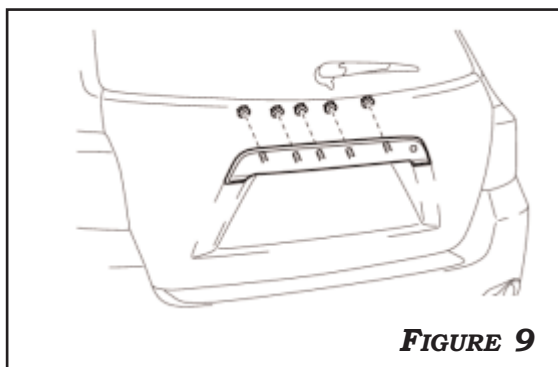


FIGURE 9

INSTALLATION

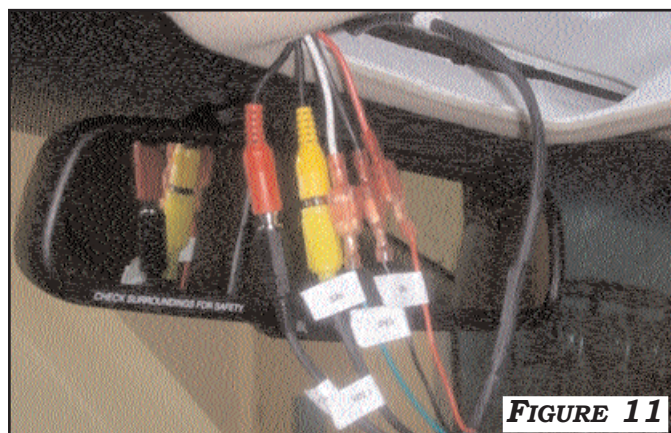
INSTALLING MONITOR/MIRROR



1. MOUNT REARSIGHT MIRROR ON EXISTING WINDSHIELD LUG AND TIGHTEN SCREW. **FIGURE 10**



2. ROUTE MIRROR HARNESS UP WINDSHIELD AND BEHIND THE HEADLINER TO CONSOLE OPENING. ROUTE THE END OF THE CAMERA EXTENSION HARNESS MARKED "TO MIRROR" WITH THE MALE CONNECTORS UP THE CENTER OF THE WINDSHIELD AND BEHIND HEADLINER TO THE CONSOLE OPENING. **FIGURE 11**

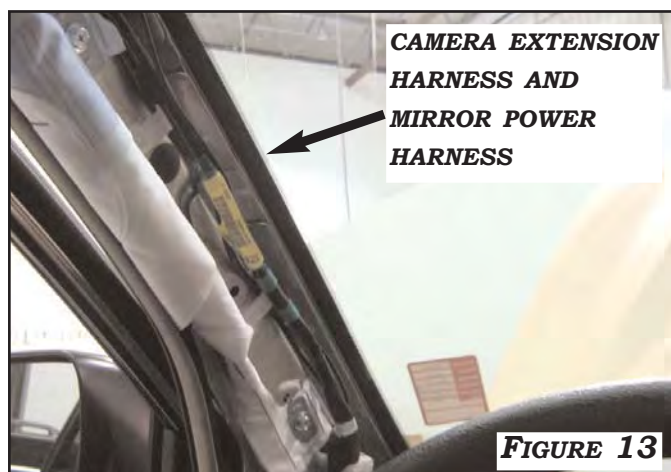
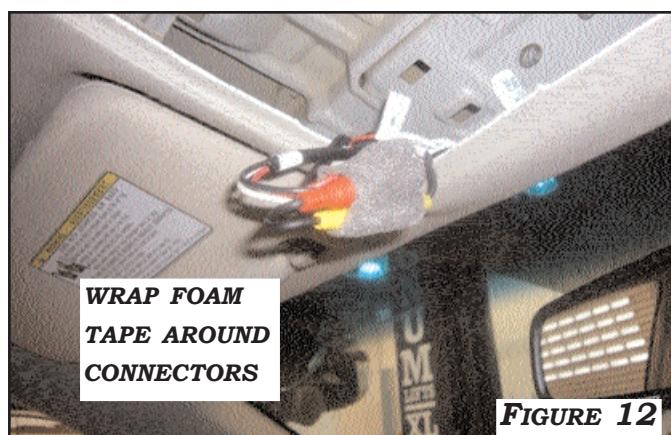


3. CONNECT **MALE RCA** VIDEO CONNECTOR OF CAMERA EXTENSION HARNESS TO **VIDEO** INPUT (YELLOW CONNECTOR) OF MIRROR HARNESS. CONNECT **MALE DC** POWER CONNECTOR OF CAMERA EXTENSION HARNESS TO CAMERA **POWER** OUTPUT (BLACK CONNECTOR) OF REARSIGHT MIRROR HARNESS. CONNECT RED, WHITE, AND BLACK WIRES OF POWER EXTENSION HARNESS AS SHOWN IN **FIGURE 11**. WRAP ALL **RCA** AND **DC** CONNECTORS WITH THE FOAM TAPE PROVIDED. **FIGURE 12**

ROUTING HARNESSES AND POWER CONNECTIONS



1. ROUTE **CAMERA EXTENSION HARNESS** AND **MIRROR POWER HARNESS** (RED, BLACK AND WHITE WIRES) ABOVE HEADLINER TO DRIVER-SIDE A-PILLAR. ROUTE HARNESSES DOWN THE A-PILLAR USING THE FACTORY RETAINING CLIPS OR FOAM TAPE WHENEVER POSSIBLE. IF THE VEHICLE HAS SIDE CURTAIN AIRBAGS, BE SURE TO SECURE THE HARNESS SO THAT IT DOES NOT INTERFERE WITH AIRBAG DEPLOYMENT. ROUTE THE HARNESSES FROM THE A-PILLAR TO THE KICK PANEL. **FIGURE 13**



INSTALLATION

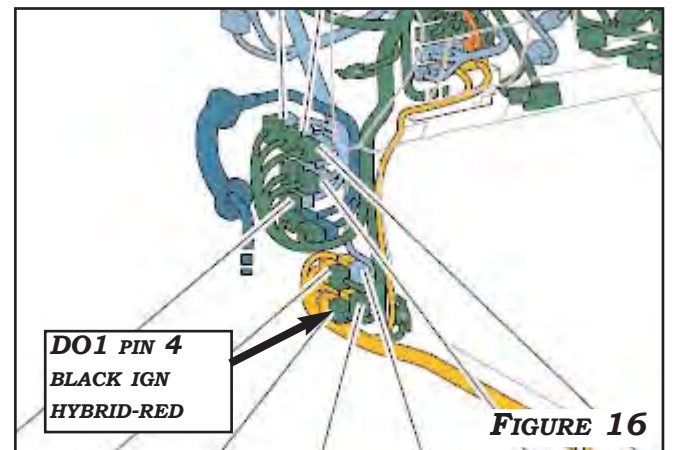
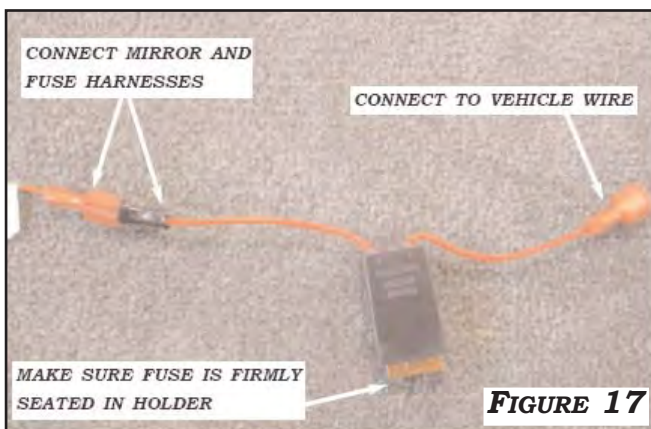
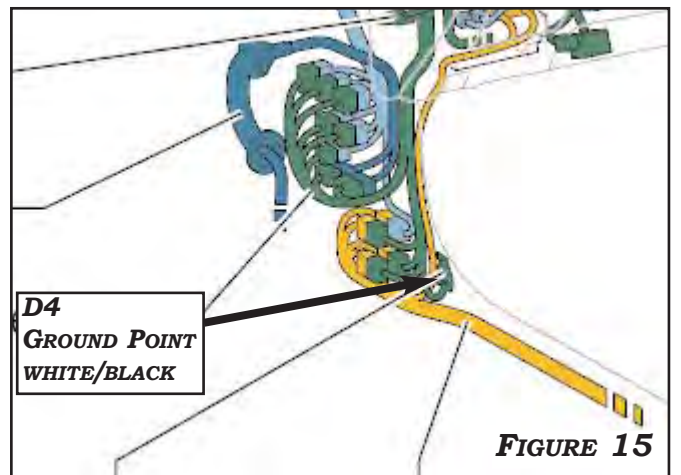
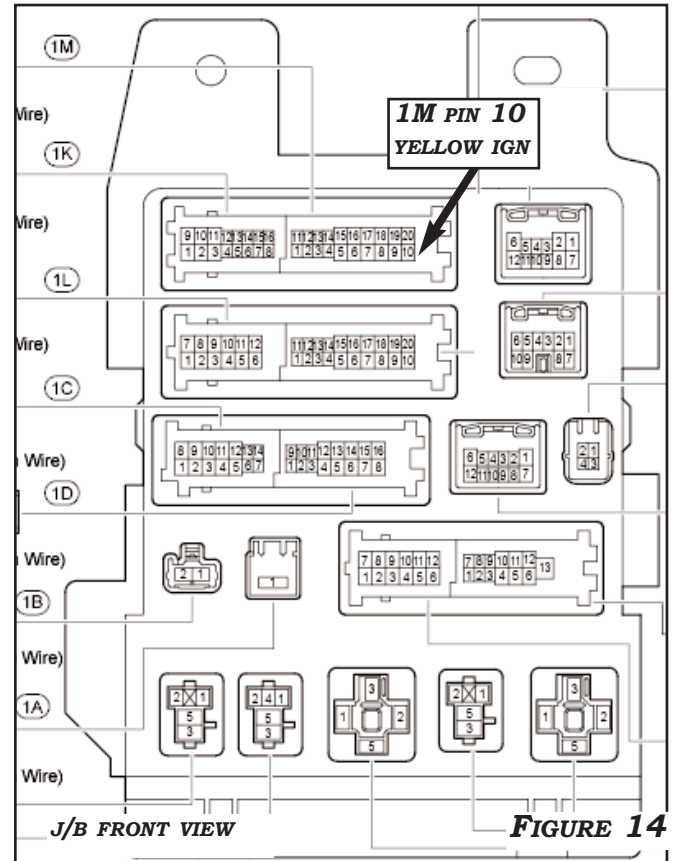
ROUTING HARNESSES

AND POWER CONNECTIONS CONTINUED...



2. LOCATE WHITE CONNECTOR **1M** AT THE DRIVER SIDE JUNCTION BOX. USE THE SUPPLIED RED T-TAP CONNECTOR TO CONNECT THE **RED IGNITION WIRE** OF THE **MIRROR POWER HARNESS** TO THE **YELLOW WIRE** IN **PIN 10** OF WHITE CONNECTOR **1M** (POWER OUTLET CIRCUIT). USE THE SUPPLIED FUSE HARNESS BETWEEN THE **RED IGNITION WIRE** OF THE **MIRROR POWER HARNESS** AND **YELLOW WIRE** OF VEHICLE.. USE A RED T-TAP TO CONNECT THE **BLACK GROUND WIRE** OF THE **MIRROR POWER HARNESS** TO THE **WHITE/BLACK WIRE** IN **GROUND POINT D4**. LOCATE GRAY CONNECTOR **DO1** AT THE DRIVER SIDE KICK PANEL. USE THE SUPPLIED RED T-TAP CONNECTOR TO CONNECT THE **WHITE REVERSE WIRE** OF THE **MIRROR POWER HARNESS** TO THE **BLACK WIRE (HYBRID-RED WIRE)** IN **PIN 4** OF CONNECTOR **DO1**. SECURE ALL HARNESSES WITH WIRE TIES. **FIGURES 14-17**

3. ROUTE THE CAMERA EXTENSION HARNESS FROM THE KICK PANEL UNDER THE DOOR SILL TRIM AND BESIDE THE REAR SEAT TO THE CARGO AREA. USE THE FACTORY WIRE CHANNELS AND RETAINING CLIPS. ROUTE THE HARNESS ALONG THE FLOOR UNDER THE LEFT REAR TRIM PANELS AND UP THE LEFT D-PILLAR ABOVE THE HEADLINER TO THE REAR DOOR HOSE GROMMET. PULL THE HARNESS THROUGH THE HOSE, USING SOAPY WATER AS A LUBRICANT. *OPTIONAL: WATER ALCOHOL/SOLUTION CAN BE USED. ROUTE THE HARNESS FROM THE HOSE INSIDE THE REAR DOOR TO THE AREA WHERE THE OUTSIDE GARNISH SUB-ASSEMBLY WAS REMOVED. FOLLOW THE FACTORY HARNESSES WHERE POSSIBLE. SECURE THE HARNESS WITH WIRE TIES OR FOAM TAPE. **FIGURE 18**



INSTALLATION

MOUNTING CAMERA AND PCB



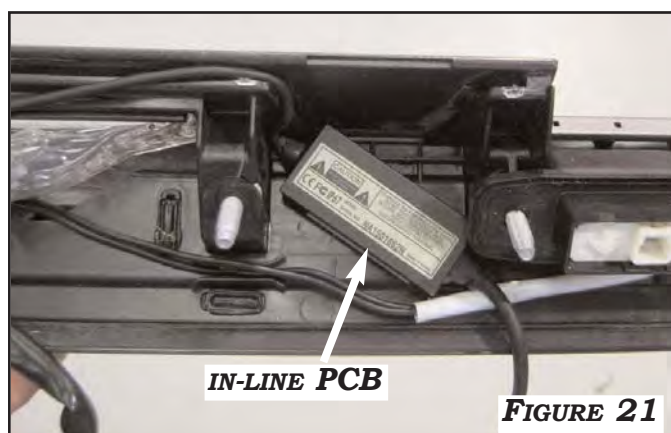
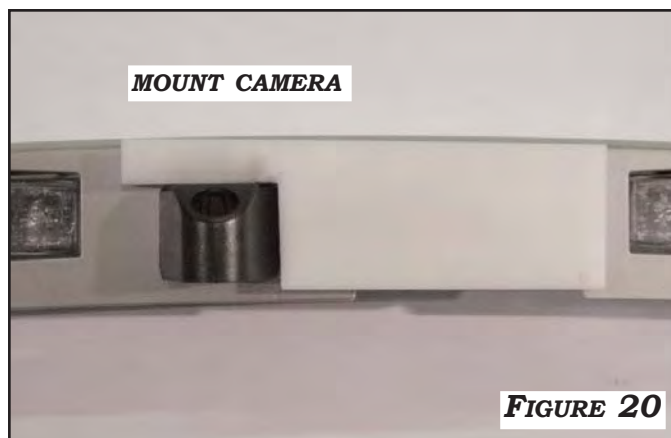
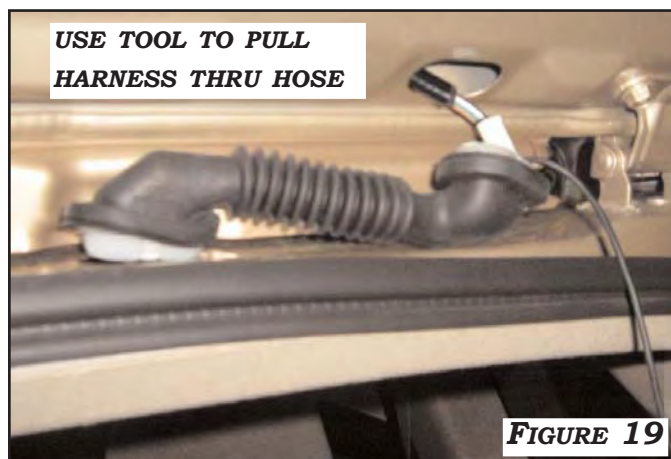
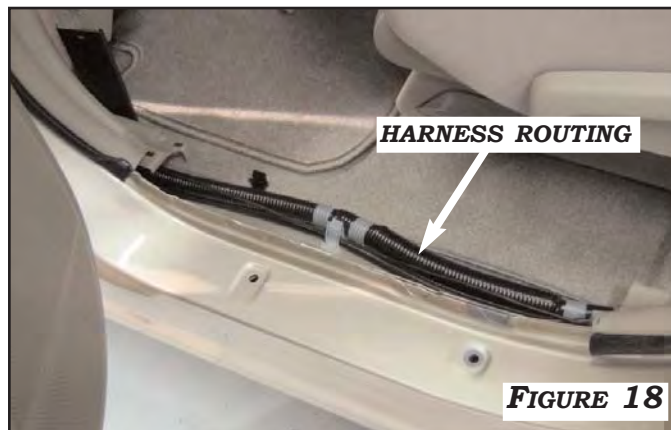
NOTE: INSTALLATION TEMPERATURE

SURFACE TEMPERATURE MUST BE BETWEEN 70 DEGREES F AND 110 DEGREES F FOR OPTIMUM INSTALLATION.

1. CLEAN THE LEFT SIDE OF THE BOTTOM OF THE LICENSE PLATE TRIM PIECE WITH ALCOHOL. ATTACH THE REARSIGHT HIGHLANDER REAR CAMERA MOUNTING FIXTURE TO THE TRIM PIECE USING THE CENTER LICENSE PLATE LIGHT CAVITY AS A GUIDE AS SHOWN IN **FIGURE 20**. **NOTE: DIO CAMERA TEMPLATE IS ON PAGE 9**. PEEL THE CLEAR LINER OFF OF THE DOUBLE-SIDED TAPE ON THE CAMERA ASSEMBLY AND MOUNT THE ASSEMBLY TO THE TRIM PIECE USING THE FIXTURE FOR ALIGNMENT. BE SURE TO PUSH THE CAMERA ASSEMBLY FIRMLY INTO THE GAP IN THE FIXTURE, AND PRESS DOWN FIRMLY ON THE TRIM PIECE FOR FIVE SECONDS BEFORE RELEASING. REMOVE THE MOUNTING FIXTURE FROM THE TRIM PIECE. ROUTE THE CAMERA HARNESS INSIDE THE TRIM PIECE AND MOUNT THE PCB TO THE BACK-SIDE (CLEAN WITH ALCOHOL PAD FIRST) USING THE SUPPLIED 1x2" DOUBLE-SIDED TAPE AS SHOWN. **FIGURE 21**

2. CUT A SLIT IN THE EXISTING TRIM PIECE HARNESS GROMMET AND INSERT THE CAMERA HARNESS. USE THE SUPPLIED SEALING PUTTY WHERE THE HARNESS ENTERS THE GROMMET. INSERT HARNESSES AND GROMMET INTO THE REAR DOOR AND REINSTALL THE TRIM PIECE ONTO THE VEHICLE. BE SURE THE HARNESS IS NOT BOUND OR PINCHED. **FIGURE 22**

3. CONNECT **RCA** CONNECTOR AND **DC POWER** CONNECTOR OF CAMERA HARNESS TO THE EXTENSION HARNESS. WRAP **RCA** AND **DC** CONNECTORS WITH FOAM TAPE PROVIDED. PROPERLY BUNDLE AND SECURE EXCESS HARNESS INSIDE OF REAR DOOR. BE SURE HARNESS IS NOT BINDING AND IS CLEAR OF MOVING PARTS.



TESTING AND REASSEMBLY

TESTING



1. RECONNECT NEGATIVE BATTERY CABLE AND TORQUE TO **3 FT LBS**. RE-ENTER ANY THEFT DETERRENT INFORMATION, IF APPLICABLE.



2. TURN THE IGNITION SWITCH **ON**. PUT THE VEHICLE IN REVERSE. VERIFY THAT THE REARSIGHT MIRROR IS ON AND THAT THE CAMERA'S PICTURE APPEARS.

3. IF THERE IS NO PICTURE, VERIFY ALL CONNECTIONS ARE SECURE.



REASSEMBLY

1. REINSTALL ALL TRIM PIECES TAKING SPECIAL CARE TO ENSURE HARNESSES AND WIRING CONNECTIONS ARE PROPERLY SECURED.

2. BE SURE HARNESS IS NOT PINCHED OR BOUND BY TRIM PIECES.

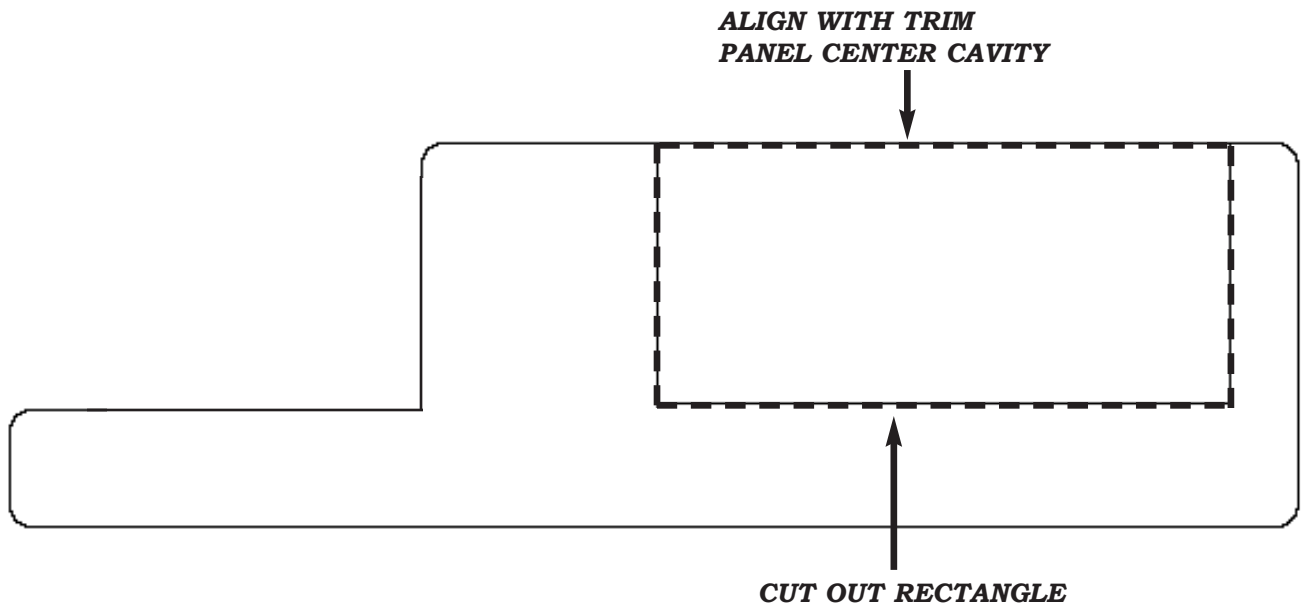
3. PLACE THE OWNER'S CARD IN THE GLOVE BOX.

4. RECONNECT ALL DISCONNECTED BULBS AND CHECK FOR FUNCTION.

VEHICLE FUNCTION CHECK

AFTER ALL PANELS, COVERS, AND COMPONENTS HAVE BEEN REINSTALLED, THAT WERE REMOVED, TEST THOROUGHLY, ALL MECHANICAL AND ELECTRICAL COMPONENTS DISCONNECTED AND OR REMOVED FROM THE VEHICLE DURING THE INSTALLATION OF THIS ACCESSORY.

CAMERA TEMPLATE





CHECK:

LOOK FOR:

ACCESSORY FUNCTION CHECKS

☐

**TURN THE IGNITION SWITCH ON
AND PUT VEHICLE IN REVERSE**

**VERIFY CAMERA PICTURE COMES ON. (IMAGE WILL
DISAPPEAR WHEN VEHICLE IS TAKEN OUT OF GEAR)**

☐

**TURN THE IGNITION SWITCH ON
AND PRESS "AUTO" BUTTON**

VERIFY LED LIGHT IS ON IN IGNITION

VEHICLE FUNCTION CHECKS

☐

OVERHEAD MAP LIGHT OPERATION

MAP LAMPS SHOULD TURN ON/OFF

☐

TRUNK RELEASE

VERIFY TRUNK RELEASE HANDLE OPERATES

☐

BACK UP LIGHTS

**VERIFY BACK UP LIGHTS COMES ON WHEN
PLACED IN REVERSE**

☐

**RADIO OPERATION (CHECK BY PLACING VEHICLE
IN REVERSE GEAR)**

RADIO SHOULD OPERATE NORMALLY