

Factory Radio



Other Documents Available For This Vehicle:

No documents available at this time

New Radio



Adobe Acrobat Reader Printing Tips:

- 1) Select "**FILE**" then "**PRINT**" and select your printer.
- 2) In the print options box do the following:
 - A) Locate check box "**Shrink to Fit**". Place check in box.
 - B) Locate box "**Print Quality**". Select highest print dpi allowed by printer.
 - C) If print quality listed is not as high as that printers normal quality, press the "**SETUP..**" button. In the next screen, press the "**PROPERTIES**" button and set the printers print quality to the highest print dpi allowed.

Document Revision History

12/99 Document Creation

Click on a link
tab to jump to
that page

Cover
Page

Before
You Begin

Remove
& Install

Wire
New Radio

Mount
New Radio

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Overview Of This Radio Install

Step	What Section To Go To
Remove old radio from dash	Remove & Install
Wire the new radio	Wire New Radio
Mount the new radio	Mount New Radio
Finishing the installation	Remove & Install

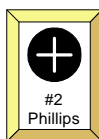
Parts Needed For This Radio Install

Parts REQUIRED for the install	Description
Snap on in dash wire harness	Toyota 87 and newer

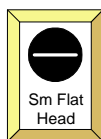
Optional parts for this install

None

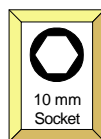
Tools Needed To Complete This Install



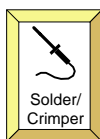
#2
Phillips



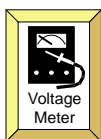
Sm Flat
Head



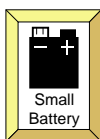
10 mm
Socket



Solder/
Crimper



Voltage
Meter



Small
Battery



TOOL TIPS:

Small Battery: use a battery to test speaker wires. Touching the (+) positive and (-) negative battery leads to a pair of speaker will cause the speaker to make a "Pop" sound indicating that pair of wires goes to that speaker.
Voltage Meter: Always check +12 Volt power wires for voltage before making wire connections. These wires will fluctuate between 10 and 14 Volts.
Solder Iron or Crimp Tool: make wire to wire connections using either a solder iron and electrical tape, OR plastic crimp terminals found at most hardware or auto parts stores.

Hand tools needed
to remove radio

Accessory tools needed to test and
wire the new radio

PLUS: Wire ties or electrical tape: to neatly bundle and organize your wires for a professional appearance.

Installation Difficulty Ratings

Easy. No advanced skills or specialty tools needed.

Basics. Simple tools required. Installs quickly.

Intermediate. Requires knowledge of tools, or disassembly of panels.

Advanced. Requires advanced tools, or extra time.

Difficult. Involves modifying or cutting of the installation area. Advanced tools and/or skills required. Best if performed by experienced installers.

Do It Yourselfers

Advanced

Professional Installer

Intermediate

Support Information If You Need Help

Supplemental information if you need help

Document Title	Document #
Basic DC electronics for automotive applications	999001
Wire splicing: soldering vs. crimping	999004
Why use radio installation kits	999005
Mounting your radio to an installation kit	999007
Why use an optional snap on wire harness	999008
Wiring your new radio using a wire harness	999009
Testing wires when installing a new radio	999013

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Installation Note: Some Toyota 4-Runners may have an external amplifier powering the speakers, not the amplifier inside the radio. This can create problems when installing a new replacement radio. There are several different methods of wiring a new radio into this vehicle if there is an amplifier but The Install Doctor recommends integrating into the Toyota amplifier. This has become the most accepted method used by professional installers when installing a new radio into this vehicle if there is an amplifier. This wiring information is shown in detail in the "Wire New Radio" section.

► Remove Factory Radio



Installation Note:

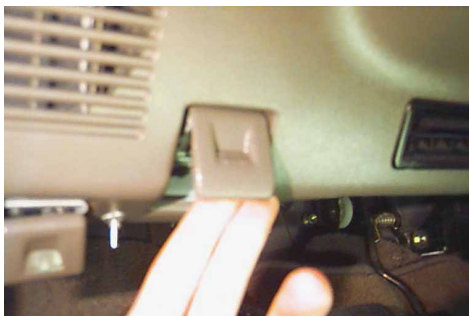
To remove the radio, the entire lower dash panel on each side of the vehicle must be removed.

STEP 1:

Move to the panel below the steering wheel. Locate and remove two (2) **Phillips screws** above the speaker opening. Locate and remove one (1) **10 mm bolt** at the bottom left corner of the panel below the speaker.

STEP 2:

Move to the right side of the panel below the steering wheel. Locate the parking brake pull out handle. Locate and remove one (1) **Phillips screw** above and one (1) **Phillips screw** below the parking brake handle.



STEP 3:

All the screws and bolts securing the lower dash panel below the steering wheel have been removed. **HOWEVER**, the vehicles hood release is attached to the bottom of the panel and the cable which runs into the engine compartment to release the hood latch will prevent you from pulling the lower dash panel away from the main body of the dash. The hood latch is screwed to the lower dash panel and will need to be removed before you can remove the lower dash panel.

Pull the hood latch towards the drivers seat. Located behind the plastic arm of the latch are two (2) **Phillips screws** that secure the top of the latch to the plastic dash panel.

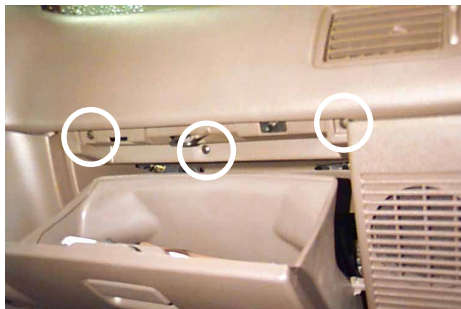
Once the 2 screws are removed, you will have to push the latch out the back of the panel and the latch should drop to the floor of the vehicle.

Now you can pull the lower dash panel below the steering wheel away from the main dash assembly.



STEP 4:

Move to the glove box on the passenger side of the vehicle. Locate and remove one (1) 10 mm bolt at the lower right corner of the dash below the speaker opening. Locate and remove one (1) phillips screw at the lower left of the dash panel below the glove box.



STEP 5:

Open the glove box. Locate and remove three (3) phillips screws at the top of the glove box assembly. 1 at the left, 1 in the center, 1 at the far right.



STEP 6:

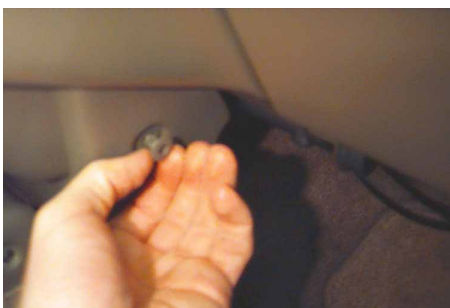
Once the screws and bolt have been removed securing the right side of the dash, with your hands pull the top right corner of the dash until it unsnaps and separates from the main dash assembly. Once the dash assembly/glove box has been pulled away from the dash, let it drop down to the floor of the vehicle.

Depending upon your vehicle, you may have to unplug plastic wire harness connectors at the right speaker and to the glove box light.



STEP 7:

Once dash assembly/glove box has been lowered out of the way, locate and remove one (1) phillips screw at the top left corner of the opening that was hidden behind the glove box.



STEP 8:

Move to the center of the dash, below the radio to plastic pocket assembly at the very bottom of the dash. You need to remove this plastic panel. There are no screws, but each side of the plastic pocket assembly is secured with round plastic push snaps. Notice the pin in the center of push snap. Gently push the center pin in until it stops. With your fingers or a small flat head screwdriver, the plastic push snap can be pulled out of the opening.

STEP 9:

Once the plastic push snaps have been removed, pull the plastic pocket assembly away from the center of the dash.



STEP 10:

Move to the air conditioner controls. Pull off the 4 rubber cushions attached to the slider arms for the air conditioner controls.



STEP 11:

The step is tricky - be careful. With a small flat head screwdriver or a hook or pick tool, insert the tip into the opening of the bottom left slider opening (temperature slider). Pry the plastic panel until it begins to separate from surrounding dash. While this bottom right corner is out, grab it with your free hand so it does not snap back into the dash. Now move your tool to the top right corner and unsnap it. With your hands, pull the panel until the left side unsnaps from the surrounding dash. As seen one of the photos above, the air conditioner button will pop out of the plastic panel. Once the air conditioner button pops out, set it aside out of the way.



STEP 12:

Pull off the plastic air conditioner panel. Set it aside out of the way.



STEP 13:

Hidden behind the plastic air conditioner panel is one (1) phillips screw at the bottom right corner. Remove the screw.

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STEP 14:

Pull off and unsnap the plastic panel surrounding the ignition key area.



STEP 15:

All screws and bolts needed to remove the plastic panel surrounding the radio have been removed. Pull the plastic panel surrounding the radio until it separates from the main dash assembly.

Once the panel is removed, the radio should and the screws securing the radio to the dash should be visible.



STEP 16:

The radio is secured to the dash with four (4) 8 mm bolts, 2 on each side of the radio.

Remove all 4 bolts. The radio is attached to the pocket below the radio by metal brackets on each side of the radio/pocket assembly.



STEP 17:

Pull the radio/pocket assembly out of the dash. Unplug the black cable from the rear of the radio. Unsnap 2 blue wire harness connectors from the rear of the radio. The radio can now be completely removed from the vehicle.

Move to the "Mount New Radio" Section

► Wiring The New Radio

Move to: **Wire New Radio** Section

Regardless whether you have a standard radio or had a Toyota amplifier in the vehicle, the wiring steps shown on the following pages are the same. If you did have an amplifier, The Install Doctor recommends "integrating" the new radio into the Toyota amplifier. When wiring the new radio to the wires located in the dash, you will actually be integrating into the Toyota amplifier. When there is a Toyota amplifier in the vehicle, these wires will go to the amplifier, then out of the amplifier to the speakers.

► Mounting The Radio

Move to: **Mounting New Radio** Section

The Install Doctor STRONGLY recommends purchasing a 'DIN' radio for this vehicle. 'DIN' radios are a direct replacement for the radio in this vehicle. More information is available in the "Mounting New Radio" section.

▶ Completing The Radio Installation



STEP 1:

The radio is secured to the brackets of the radio/pocket assembly with four (4) phillips screws / 8mm bolts, 2 on each side of the radio.

Remove all 4 screws and pull the radio out of the brackets.

NOTE: notice that the face of the radio is flush or level with the pocket below it. This is important to remember when mounting the new radio in latter steps.



STEP 2:

The new replacement radio can be inserted into the brackets in the same location that the auto makers factory radio was mounted.

This information is shown in more detail in the "**Mount New Radio**" section at the end of this document.

If Your Toyota Radio Had The Toyota CD Player or Cassette Option Installed Below The Radio Instead Of A Pocket/Tray:

This Toyota CD player will not work when installing a new radio. The Install Doctor **STRONGLY** recommends that you remove the Toyota CD player below the radio and convert the opening to a pocket.

You can purchase a pocket from a Toyota dealership or you can purchase a radio installation kit pocket from an installation shop which is the equivalent to a Toyota pocket.

Converting the opening over to using a pocket is the best method to install a new radio into this vehicle.



STEP 3:

Plug the antenna cable into the rear of the new radio. Make sure all wire connections to the new radio have been completed and plug in any connectors to the rear of the new radio.

Insert the radio/pocket assembly back into the dash. Secure the metal brackets with the same screws that had originally secured auto makers factory radio.



STEP 4:

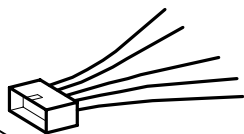
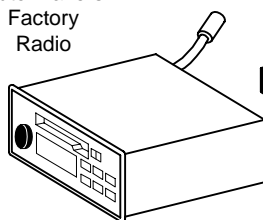
Reattach the plastic dash panel surrounding the radio. Reattach the flat plastic face panel for the air conditioner. Snap the air conditioner button back into its hole.

Reattach the panels on both sides of the vehicle.

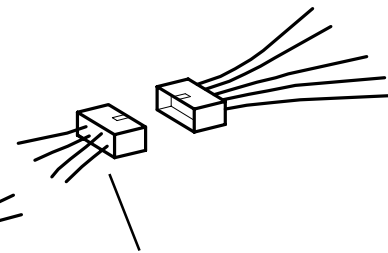
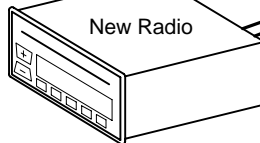
The Installation Is Now Complete

► **Step By Step Wiring**

Auto Makers
Factory
Radio



Wire Harness Inside Vehicles
Dash Which Plugs Into The
Rear Of The Factory Radio



Optional (STRONGLY
RECOMMENDED) Snap On Wire
Harness That Splices Into The
Wires Of The New Radio

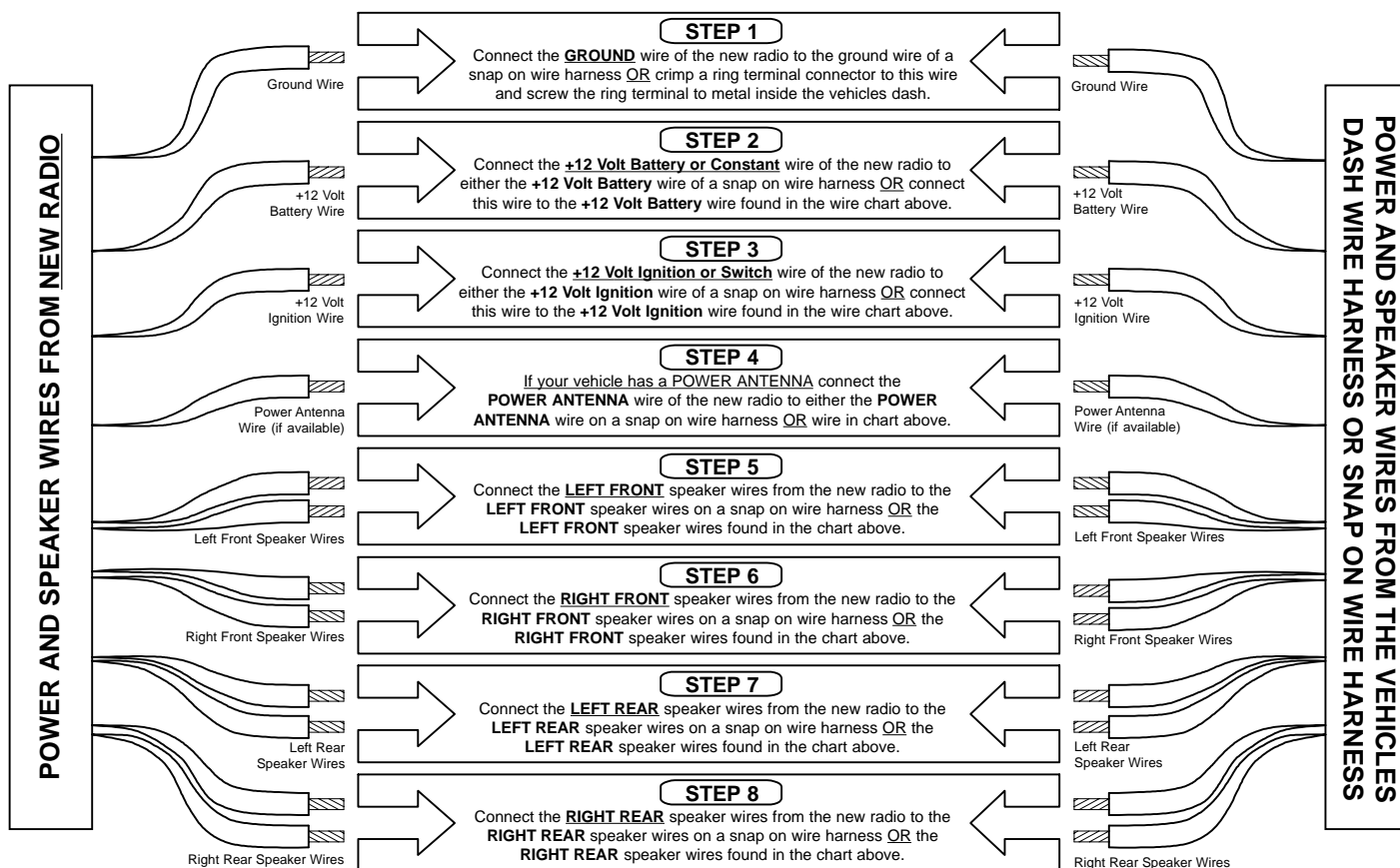
(Note: the radio shown is for display purposes and may not be similar in size or dimensions than the auto makers factory radio in your vehicle)

Supplemental information if you need help

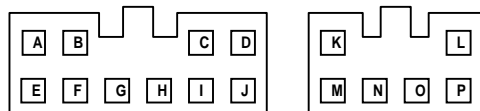
Document Title	Document #
Testing wires when installing a new radio	999013
Why use an OEM snap on wire harness	999008
Wiring your new radio using a wire harness	999009
Wire splicing: soldering vs. crimping	999004

Wiring Instructions:

The power and speaker wires needed to connect the new radio are attached to the connector of the wire harness located inside the vehicles dash. The Install Doctor **STRONGLY** recommends using an optional snap on wire harness that is specifically designed to snap into the vehicles dash wire harness connector. This will keep you from cutting the vehicles wires. This optional snap on wire harness will have wires on the opposite side of the connector that will allow you to splice these wires to the new radios wires. The only other option is to cut off the vehicles dash wire harness connector and splice the new radios wires directly to these wires. The optional snap on wire harness takes all the guess work out of trying to figure out what each wire is in the vehicles dash wire harness. The optional snap on wire harness shows you what each wire is.



▶ Radio Wire & Color Code Information Page 2 of 2



AS VIEWED FROM MATING END OF CONNECTOR

Factory in-dash wire harness (this vehicle has a 2 pc harness) that snaps into the factory radio

Pin	What It Is	Typical Toyota In Dash Wire Color	Typical New Radio Equivalent Wire Color
A	Right Front Speaker (+)	Green	Gray
B	Left Front Speaker (+)	Pink	White
C	+12 Volt Ignition Wire	Gray	Red
D	+12 Volt Battery Wire	Blue w/ Yellow Stripe	Yellow
E	Right Front Speaker (-)	Blue	Gray w/ Black Stripe
F	Left Front Speaker (-)	Purple	White w/ Black Stripe
G	Ground Wire	Black	Black
H	Power Antenna Wire 1		Blue (join wires 1 & 2 together to this blue wire)
I	Power Antenna Wire 2		
J		Do Not Use	
K	Right Rear Speaker (+)	Red	Purple
L	Left Rear Speaker (+)	Black	Green
M	Right Rear Speaker (-)	White	Purple w/ Black Stripe
N		Do Not Use	
O		Do Not Use	
P	Left Rear Speaker (-)	Yellow	Green w/ Black Stripe

Note: using an optional snap on wire harness adapter will simplify the wiring. Most snap on wire harness adapters have already converted and color coded the wires from the auto makers in dash wire harness to match typical aftermarket radio wire colors.

** The wire colors listed in the chart above are typical for this vehicle manufacturer during these years but may not be the exact colors for this vehicle. This is another reason to use a snap on wire harness adapter. **

If Your Toyota 4-Runner Has An Amplifier Inside The Vehicle:

A Note About "Integrating" The New Replacement Radio Into The Toyota Amplifier:
(even if you dont know if your vehicle has an amplifier, the wiring is exactly the same)

Pins 'H' and 'I' in the wire harness connector shown above typically control the vehicles power antenna. For vehicles with a Toyota amplifier in the vehicle, these 2 wires will also control the turning on/off of the amplifier when the radio turns on/off.

However, there is a certain problem with the design of certain aftermarket radios. Most new radio manufacturers design their radios with a single "**remote on**" wire (blue or blue with a white stripe) also referred to as a power antenna wire. This wire is designed as a multi function wire that can be used to turn on/off either a power antenna or turn on/off an amplifier in the vehicle. BUT, some new radios have MULTIPLE "remote on" wires. These multiple remote on wires are dedicated specifically to a particular function: one wire is for a power antenna only, whereas a second wire may be used to turn on/off an amplifier only. These wires will be individually labeled noting what each wires function is.

Why is this important? If you are installing a new radio with multiple "remote on" wires you will need to choose the correct wire to connect to the power antenna wires (Pins 'H' and 'I') in the wire harness shown above.

If your new radio has multiple "remote on" wires and you connect the "power antenna only" remote on wire to Pins 'H' and 'I' the Toyota amplifier in the vehicle will turn on ONLY when the AM/FM radio is turned on (the radio will only turn on/off the power antenna through the "power antenna only" remote on wire when the AM/FM radio is turned on.) BUT, if you connect the new radios "amplifier only" remote on wire to Pins 'H' and 'I' the Toyota amplifier will operate all the time: radio, cassette, CD, etc. This "amplifier only" remote on wire operates during the entire time the new radio is in operation. The "power antenna only" remote on wire only operates while the AM/FM radio is turned on.

Radio Replacement

Document #: 869017

Click on a link
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Cover
Page

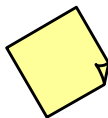
Before
You Begin

Remove
& Install

Wire
New Radio

Mount
New Radio

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NOTE:

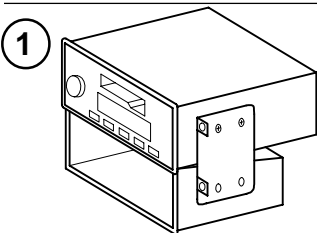
Before you begin: The best method to mount a new radio in this vehicle is to unscrew the auto makers factory radio from the brackets attached to the radio and screw the new radio into the brackets just as the factory radio was. This keeps the vehicle looking as stock from the factory as possible and means that you do not have to purchase an installation kit to mount the radio.

This method is called "ISO" mounting a radio. "ISO" mounting a radio has become a very common installation method for new replacement radio. In order to "ISO" mount your radio, three things must exist:

- 1) The radio must be a 'DIN' style rectangular radio
- 2) The 'DIN' radio must have mounting holes pre-drilled into the side of the radio to allow the radio to be 'ISO' mounted
- 3) The radio must have a removable trim ring surrounding the face of the radio

All information needed to complete the mounting of the new radio to the installation kit is included on this sheet. If you need additional help, please consult the following tech documents:

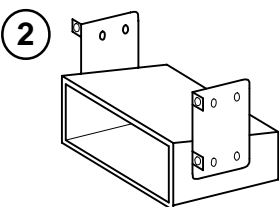
Document Title	Document #
Why use radio installation kits	999005
Mounting your radio to an installation kit	999007
Radio security	999010



Auto makers original radio with attached pocket below the radio

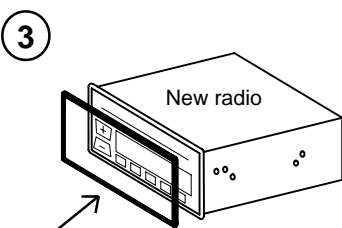
1 Remove the auto makers factory radio/pocket assembly from the vehicle. Remove the screws/bolts securing the radio to the brackets which are also attached to the sides of the pocket below the radio.

Removal Tip: some auto makers use phillips screws, some use 8 mm bolts with phillips screw cutouts in the top of the bolts. For best results use a socket to prevent stripping out the screws. If your radio has hard to remove phillips screws, insert the phillips screwdriver into the phillips screws and firmly tap with a hammer to "break" the tension bond between the phillips screws and the metal chassis of the auto makers factory radio. Then attempt to unscrew the phillips screws.

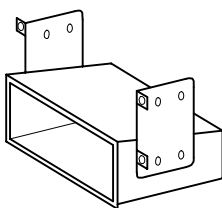


2 Remove the auto makers factory radio, but leave the brackets attached to the pocket.

What if you do not have a pocket? If the radio in your vehicle was a Double 'DIN' radio (or it did NOT have the pocket below the factory radio) **The Install Doctor STRONGLY recommends that you convert your radio assembly over to use a pocket below the radio.** You can purchase the pocket from a Nissan dealership or you can purchase a "multi" pocket radio installation kit that is designed to fit bracket-pocket applications such as this application. Once you have the pocket, secure the pocket to the metal brackets and you can avoid using radio installation kits to mount the new radio to the dash.

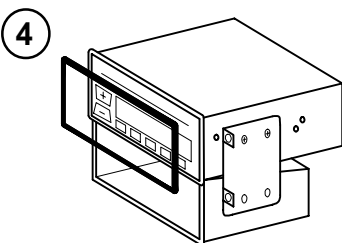


New radios removeable trim ring surround the face of the radio

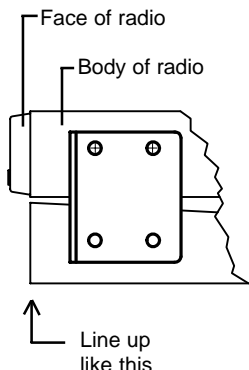


On the side of the new 'DIN' radio should be pre-drilled holes to allow you to 'ISO' mount the new radio into the brackets. Most car radio manufacturers design their radios with many holes on the side of the radio so the radio can be mounted to many different kinds of bracket/pocket configurations.

If you are going to mount your radio in this manner, you will probably have to remove the radios face trim ring around the face of the radio. This trim ring will most likely prevent the vehicles dash panel from securing properly back onto the dash.



New radio attached to the auto makers pocket and brackets



A common **mistake** when mounting your new radio to the auto makers radio bracket and pocket is selecting the wrong holes on the side of the new radio.

The new radio body, NOT THE FACE PLATE, should line up with the pocket below the radio. Most new radio manufacturers design their radios with a face that protrudes out from the body of the radio (or even faces that detach from the body). The most common mistake is to mount the new radio with the protruded face lined up level with the pocket below the radio, not the new radios body.

(if the radio does have a detachable face, and the front of the detachable face is lined up with the pocket there will be a large gap when the face is detached from the body. If the body is lined up with the pocket and the face is detached, the body will still be lined up with the pocket and there will be no gap.)