

AVION SERVICE BULLETIN

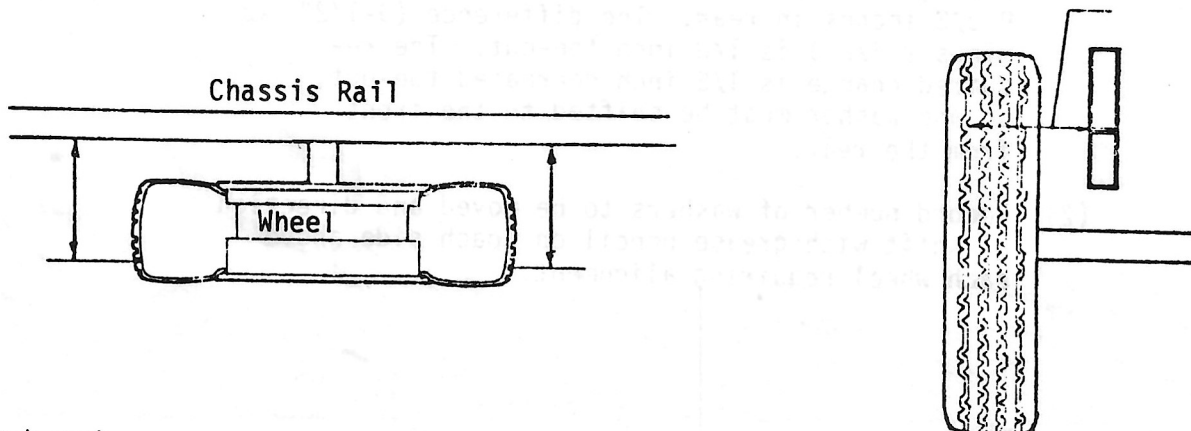
WHEEL ALIGNMENT PROCEDURE
FOR
ADJUST-A-RIDE* AXLES

The following detailed procedure must be followed to adjust the toe-in/toe-out of Avion Adjust-A-Ride* axles:

Tools required:

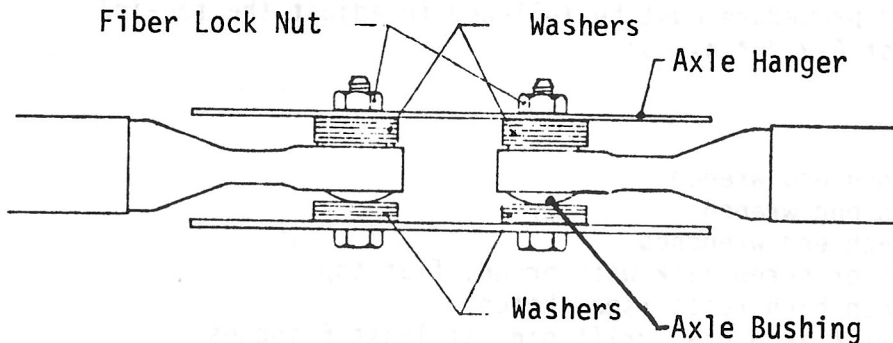
- 1 - 13/16 inch end wrench
 - 1 - 7/8 inch end wrench
 - 2 - 15/16 inch end wrenches
 - 1 - scissors or screw jack with broad, flat top
 - 2 - 4-1/2 inch high ramps (see sketch)
 - 1 - 1/2 or 9/16 inch dia. drift pin, at least 6 inches long and tapered at one end
 - 1 - short pry-bar
1. Check the nuts on all shackle bolts to be sure that none are full tight. If fully tightened nuts are found, back each of these nuts off 1/2 of a turn to free up the suspension (2-axle Avions have 14 shackle bolts and nuts, 3-axle Avions have 24).
 2. After checking all shackle bolts and correcting any over-tightness, measure the wheel alignment as follows:
 - A. With coach level front to back, tow the coach forward in a straight line for at least 25 feet. Stop without using electric brakes.
 - B. Measure to the nearest 1/16 inch and record the distance from the Avion frame out to a convenient tire groove at the front and the rear of each tire. All measurements must be taken at the same height on the tire and frame, and should be taken near the lower corner of the upper frame tube. (See sketch below.)

NOTE: It is suggested that measurements be recorded using grease pencil on the side of the coach just above the wheel cut-out.



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3. Wheel alignment is corrected by shifting one or more of the nine washers located between the axle center bushings and the axle hangers. (See diagram below.) Calculate the number of washers and the direction of shift as follows:



A. General Rules

- (1) Shifting washers to the front from the rear side of the axle bushing will increase toe-in (decrease toe-out) exactly 1/8 inch for each washer shifted.
- (2) Shifting washers to the rear from the front side of the axle bushing will increase toe-out (decrease toe-in) exactly 1/8 inch for each washer shifted.

B. Requirements for Fully Loaded Coaches

All wheels of fully loaded coaches must be set within 1/16 inch of zero.

- (1) Each 1/8 inch toe-in or toe-out requires movement of one washer to the front or rear of the axle bushing as appropriate. (See A, General Rules, above.)

EXAMPLE: The distance from frame to outside tire groove is 9-1/2 inches in front and 9-3/8 inches in rear. The difference (9-1/2" minus 9-3/8") is 1/8 inch toe-out. The required change is 1/8 inch decreased toe-out, so one washer must be shifted to the front from the rear.

- (2) Record number of washers to be moved and direction of shift with grease pencil on coach side above each wheel requiring alignment.

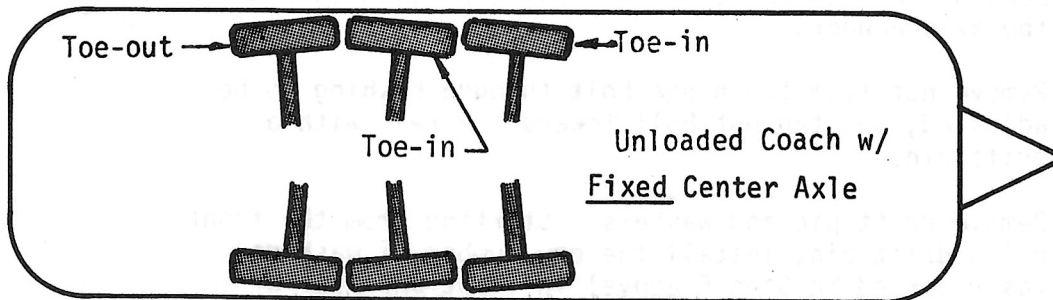
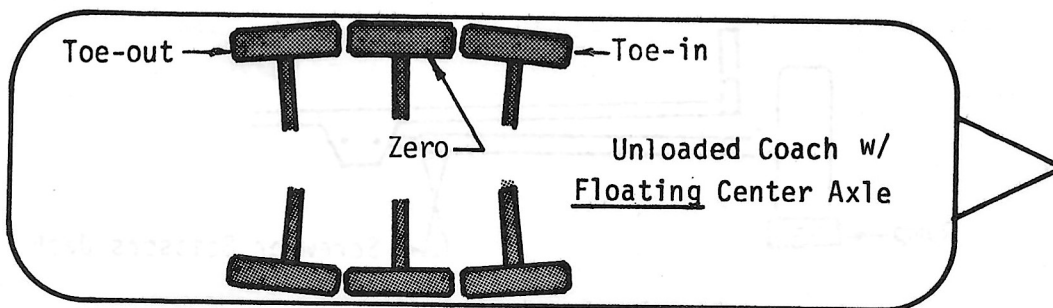
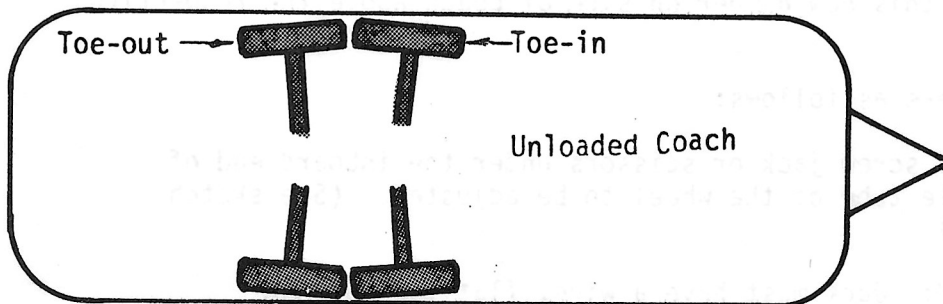
C. Requirement for Empty (Unloaded) Coaches

Wheels on forward axles must be set with 1/16 to 1/8 inch toe-in.

Wheels on rear axles must be set with 1/16 to 1/8 inch toe-out.

Wheels on floating center axles (triple axle units only) must be set within 1/16 inch of zero.

Wheels on fixed center axles (triple axle units only) must be set with 1/16 to 1/8 inch toe-in. NOTE: Fixed center axles start with unit serial number 1560.



- (1) Each 1/8 inch of needed correction requires movement of one washer to the front or rear of the axle bushing as appropriate. (See A, General Rules, above.)

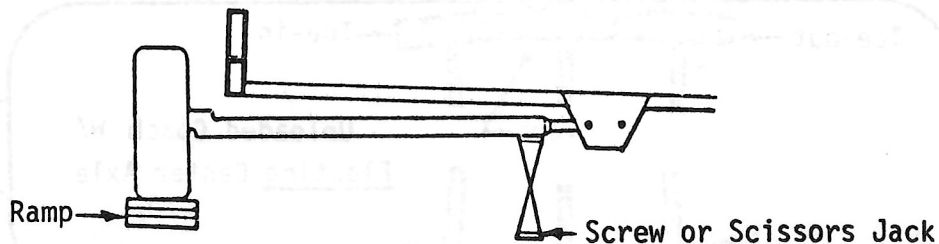
EXAMPLE: The distance from the frame to the outside tire groove of a tire on a forward axle is 9-1/2 inches in front and 9-3/8 inches in rear. The difference (9-1/2" minus 9-3/8") is 1/8 inch toe-out. Forward wheels require 1/8 inch toe-in. The total required change is 1/4 inch increased toe-in, so two washers must be shifted to the front from the rear.

- (2) Record number of washers to be moved and direction of shift with grease

4. If alignment of wheels is needed, tow coach onto 4-1/2 inch high ramps (see attached sketch for construction of ramp) to provide room to work on axle hinges.
5. Count the number of washers in front and back of the axle bushing of each wheel requiring alignment. Record numbers on side of coach above wheel.
6. For each wheel requiring alignment, calculate the new number of washers that will be required in front and back of each bushing and record this new number on side of coach above the respective wheel.
7. Shift washers as follows:

- A. Place a screw jack or scissors under the inboard end of the axle tube of the wheel to be adjusted. (See sketch below.)

CAUTION: Jack must have a wide, flat top so that axle can be moved without slipping off. Adjust jack up against axle tube.

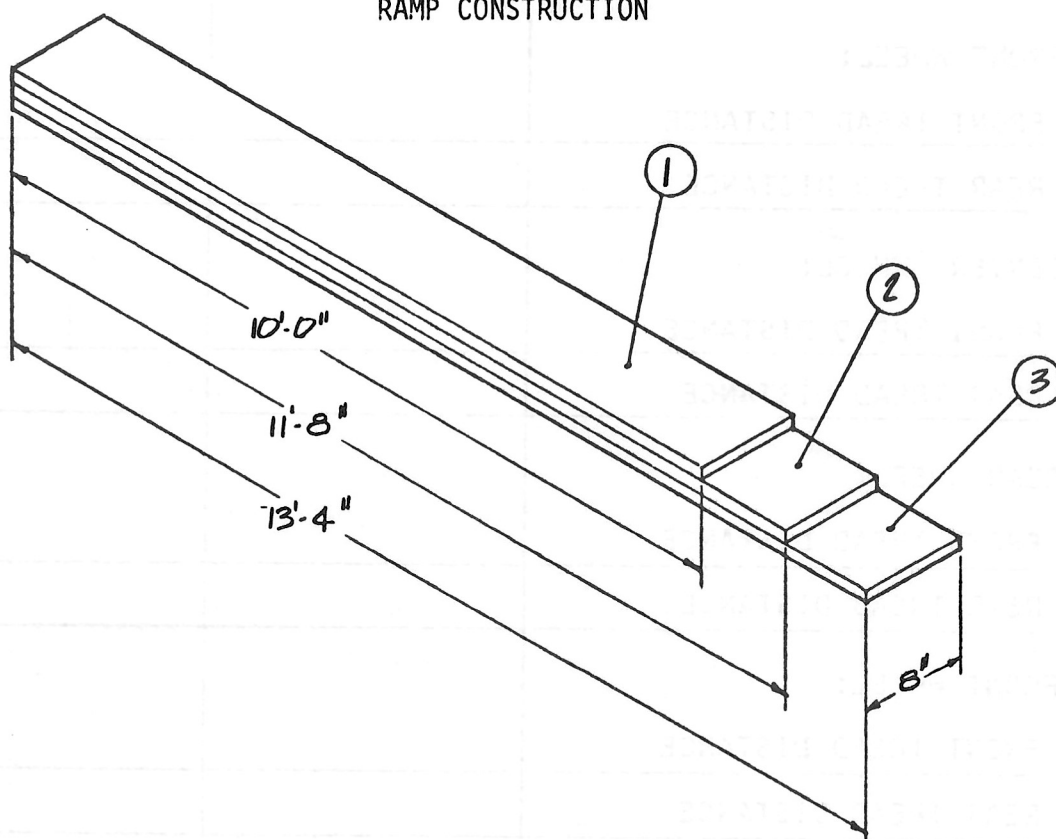


- B. Loosen the nuts on both hinge bolts passing through the axle hangers.
 - C. Remove nut from the hinge bolt through bushing to be adjusted, and tap out bolt toward the rear with a drift pin.
 - D. Remove drift pin and washers. Starting from the front using drift pin, install the new number of washers (as recorded in Step 6 above) in front and rear of bushing. Tap in the hinge bolt from the rear, moving washers and bushing as required to line-up bolt.
- NOTE: The number of washers on each bolt must always total nine.
- E. After shifting washers, tighten nuts to 125 FT. LBS. torque on both hinge bolts. (If the other axle attached to the axle hangers requires adjustment, it should be done before tightening.)

November 14, 1978

- F. After completing all washer relocations for all wheels needing alignment, back trailer off of ramp, tow at least 25 feet forward and re-measure tire-to-frame distances as in Step 2 above to verify alignment.
- G. Record owner's name, Avion serial number, final tire-to-frame distances of all wheels before and after adjustment on attached "Record Sheet Wheel Alignment" format. This information must be transmitted with the dealer's invoice to the Avion factory.

RAMP CONSTRUCTION



ITEM	DESCRIPTION	QTY
1	LUMBER- 2" x 8" x 10'-0"	1
2	x 11'-8"	1
3	x 13'-4"	1

NOTE:

1. 2 RAMPs ARE REQUIRED.

RECORD SHEET-AXLE ADJUSTMENT

TRAILER NUMBER _____ DATE _____

DEALER NAME _____

WORK DONE BY _____

	MEASURED PRIOR TO ADJUSTMENT	MEASURED AFTER ADJUSTMENT
R. FRONT WHEEL:		
FRONT TREAD DISTANCE		
REAR TREAD DISTANCE		
R. CENTER WHEEL:		
FRONT TREAD DISTANCE		
REAR TREAD DISTANCE		
R. REAR WHEEL:		
FRONT TREAD DISTANCE		
REAR TREAD DISTANCE		
L. FRONT WHEEL:		
FRONT TREAD DISTANCE		
REAR TREAD DISTANCE		
L. CENTER WHEEL:		
FRONT TREAD DISTANCE		
REAR TREAD DISTANCE		
L. REAR WHEEL:		
FRONT TREAD DISTANCE		
REAR TREAD DISTANCE		

FLEETWOOD

SERVICE BULLETIN

Class "A"
Motor Homes

Class "B"
Motor Homes

Class "C"
Motor Homes

Travel
Trailers

BULLETIN #

Avion No. 7

SUBJECT: Wheel Alignment Procedure, Avion Axles

DATE: 30 June 1981

THIS SERVICE BULLETIN SUPERCEDES AVION SERVICE BULLETIN # 1.

This bulletin is supplied for technical information only and is not an authorization for repairs.