



Countries:	CANADA, UNITED STATES	Document ID:	IK0200003
Availability:	ISIS, Bus ISIS, FleetISIS	Revision:	4
Major System:	FRONT AXLE	Created:	12/13/2006
Current Language:	English	Last Modified:	5/17/2013
Other Languages:	Français , Español ,	Author:	Rob Marvel
Viewed:	2798		

[Less Info](#)

Hide Details

Coding Information

Copy Link	Copy Relative Link	Bookmark	Add to Favorites	Print	Provide Feedback	Helpful	Not Helpful
		 View My Bookmarks				 568	 639

Title: Steer Axle Alignment
Applies To: Model: All

This TSI letter 12-02-01 identifies the recommended TOE, CAMBER and CASTER settings for front wheel alignment on vehicles built by International Truck and Engine Corporation.

Service Procedure

TOE-IN

Toe-In for All Steer Axles - No Load

Toe-In Specification - No Load				
0 to 1/8 in	0 to 0.125 in	0 to 0.180 degrees	0 to 3.2 mm	0 to 3.14 mm / M
Recommended Toe-In Target Values When Resetting Toe-In				
1/32 to 1/16 in	0.021 to 0.063 in	0.03 to 0.09 degrees	0.54 to 1.60 mm	0.54 to 1.62 mm / M

CAMBER**NOTE:**

Camber is pre-drilled in the I-beam by the supplier, and within the following specifications, and is not an issue in tire tread life or handling on North American highways. Cold inflation and toe-in are the prime factors in tread life.

NOTE:

International and its suppliers will not approve adjusting CAMBER by bending the I-beam.

Camber Tolerance: +/- .437 degrees per side

Front Non-Drive Steer Axle Camber Specifications

Axle Rating	Code	Model	Eff. Date	Camber			
				Degrees		MM / Meter	
-	-	-	-	Left	Right	Left	Right
6K	DANA	I-60S	All	.375	.125	6.6	2.2
-	-	I-60SG	All	.375	.125	6.6	2.2
-	-	D600-N	All	.125	-.125	2.2	-2.2
7K	DANA	D700-N	All	.125	-.125	2.2	-2.2
-	-	D700-F	All	.25	0	4.4	0
-	MERITOR	MFS-07-153B	All	.25	0	4.4	0
7.3K	DANA	D700-N	All	.125	-.125	2.2	-2.2
-	MERITOR	MFS-07-153B	All	.25	0	4.4	0
8K	DANA	I-80S	All	.375	.125	6.6	2.2
-	-	I-80SG	All	.375	.125	6.6	2.2
-	-	D800-F	All	.25	0	4.4	0
-	MERITOR	MFS-08-153B	All	.25	0	4.4	0
8.5K	DANA	I-100S	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After	.25	0	4.4	0

			10/01				
-	DANA	D850-F	All	.25	0	4.4	0
9K	DANA	I-100S	Before 10/01	- .125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	MERITOR	E1002W	All	.25	0	4.4	0
-	-	MFS-09- 122A	All	.25	-.25	4.4	-4.4
-	-	MFS-09- 143A	All	.25	-.25	4.4	-4.4
10K	DANA	I-100S	Before 10/01	- .125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	I-100W	All	.25	0	4.4	0
-	-	E1000I	All	.187	-.062	3.3	-1.1
-	-	E1002I	All	.25	0	4.4	0
-	-	E1002W	All	.25	0	4.4	0
-	MERITOR	MFS-10- 122A	All	.25	-.25	4.4	-4.4
-	-	MFS-10- 122D	All	.25	-.25	4.4	-4.4
-	-	MFS-10- 143A	All	.25	-.25	4.4	-4.4
-	-	MFS-10- 143D	All	.25	-.25	4.4	-4.4
11K	DANA	I-120S	Before 10/01	- .125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	E1202W	All	.25	0	4.4	0
-	MERITOR	MFS-11- 122A	All	.25	-.25	4.4	-4.4
-	-	MFS-11- 143A	All	.25	-.25	4.4	-4.4
12K	DANA	EFA12	All	7/16	-1/16	7.6	-2.2
-	-	I-120S	Before 10/01	- .125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0

-	-	I-120SG	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	I-120SGL	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	I-120W	All	.25	0	4.4	0
-	-	E1200I	All	.187	-.062	3.3	-1.1
-	-	E1203I	All	.25	0	4.4	0
-	-	E1202I	All	.25	0	4.4	0
-	-	E1202W	All	.25	0	4.4	0
-	MERITOR	FF961	Before 8/31/92	.25	-.25	4.4	-4.4
-	-	-	After 9/1/92	-.25	-.25	-4.4	-4.4
-	-	FF981/FF986	Before 8/31/92	.25	-.25	4.4	-4.4
-	-	-	After 9/1/92	-.25	-.25	-4.4	-4.4
-	-	MFS-12-122A	All	.25	-.25	4.4	-4.4
-	-	MFS-12-122D	All	.25	-.25	4.4	-4.4
-	-	MFS-12-143A	All	.25	-.25	4.4	-4.4
-	-	MFS-12-143D	All	.25	-.25	4.4	-4.4
-	HENDRICKSON	STEERTEK	All	0	-0.25	0	-4.4
12.35K	DANA	E1202W	All	.25	0	4.4	0
-	MERITOR	MFS-12-122A	All	.25	-.25	4.4	-4.4
-	-	MFS-12-143A	All	.25	-.25	4.4	-4.4
-	HENDRICKSON	STEERTEK	All	0	-.25	0	-4.4
13K	DANA	I-1305	All	.25	0	4.4	0
-	-	I130W	All	.25	0	4.4	0
-	-	E1322W	All	.25	0	4.4	0
-	MERITOR	MFS-13-122D	All	.25	-.25	4.4	-4.4

-	-	MFS-13-143A	All	.25	-.25	4.4	-4.4
-	HENDRICKSON	STEERTEK	All	0	-.25	0	-4.4
13.2K	DANA	I-132SG	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	E1320I	All	.187	-.062	3.3	-1.1
-	-	E1322W	All	.25	0	4.4	0
-	MERITOR	FF982/FF987	Before 8/31/92	.25	-.25	4.4	-4.4
-	-	-	After 9/1/92	-.25	-.25	-4.4	-4.4
-	-	FF942	Before 8/31/92	.25	-.25	4.4	-4.4
-	-	-	After 9/1/92	-.25	-.25	-4.4	-4.4
-	-	MFS-13-122D	All	.25	-.25	4.4	-4.4
-	-	MFS-13-143A	All	.25	-.25	4.4	-4.4
-	HENDRICKSON	STEERTEK	All	0	-0.25	0	-4.4
14K	DANA	I-140	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	I-140S	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	I-140W	All	.25	0	4.4	0
-	-	I-140W RHD	All	.25	0	4.4	0
-	-	E1460I	All	.187	-.062	3.3	-1.1
-	-	E1462I	All	.25	0	4.4	0
-	-	E1462W	All	.25	0	4.4	0
-	-	E1462W RHD	All	0	.25	0	4.4
-	MERITOR	MFS-14-143A	All	.25	-.25	4.4	-4.4
-	-	MFS-14-143A	All	.25	-.25	4.4	-4.4

-	HENDRICKSON	STEERTEK	All	0	-.25	0	-4.4
14.6K	DANA	I-140S	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	E1460I	All	.187	-.062	3.3	-1.1
-	MERITOR	FG-941	Before 8/31/92	.25	-.25	4.4	-4.4
-	-	-	After 9/1/92	-.25	-.25	-4.4	-4.4
-	-	MFS-14-143A	All	.25	-.25	4.4	-4.4
-	HENDRICKSON	STEERTEK	All	0	-.25	0	-4.4
16K	DANA	I-160S	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	I-160W	All	.25	0	4.4	0
-	MERITOR	FL-941	Before 8/31/92	.25	-.25	4.4	-4.4
-	-	-	After 9/1/92	-.25	-.25	-4.4	-4.4
-	-	MFS-16-143A	All	.25	-.25	4.4	-4.4
18K	DANA	I-180S	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	I-180W	All	.25	0	4.4	0
-	MERITOR	FL-941	Before 8/31/92	.25	-.25	4.4	-4.4
-	-	-	After 9/1/92	-.25	-.25	-4.4	-4.4
-	-	MFS-18-133A	All	.25	-.25	4.4	-4.4
20K	DANA	I-200S	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	I-200W	All	.25	0	4.4	0
-	MERITOR	FL-941	Before 8/31/92	.25	-.25	4.4	-4.4

-	-	-	After 9/1/92	-.25	-.25	-4.4	-4.4
-	-	MFS-20-133A	All	.25	-.25	4.4	-4.4
22K	DANA	I-200S	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	I-220S	Before 10/01	-.125	-.125	-2.2	-2.2
-	-	-	After 10/01	.25	0	4.4	0
-	-	I-220W	All	.25	0	4.4	0
-	MERITOR	FL-941	Before 8/31/92	.25	-.25	4.4	-4.4
-	-	-	After 9/1/92	-.25	-.25	-4.4	-4.4
-	-	MFS-20-133A	All	.25	-.25	4.4	-4.4

Front Drive Steer Axle Camber Tolerance:

Dana +/- .19 degrees

Meritor +/- .19 degrees

Fabco +.5/ -.25 degrees

Front Drive Steer Axles

Axle Rating	Code	Model	Eff. Date	Camber			
				Degrees		MM / Meter	
				Left	Right	Left	Right
8K	FABCO	FSD-8A	All	0	0	0	0
9K	DANA	S-90	All	.5	.5	8.7	8.7
10K	MERITOR	MX-10-120	All	0	0	0	0
-	FABCO	FSD-10A	All	0	0	0	0
12K	MERITOR	MX-12-120	All	0	0	0	0
-	DANA	SDA-1200	All	0	0	0	0
-	FABCO	FSD-12A	All	0	0	0	0

13K	MERITOR	MX-13-120	All	0	0	0	0
-	FABCO	FSD-13A	All	0	0	0	0
14K	MERITOR	MX-14-120	All	0	0	0	0
-	FABCO	SDA-1400	All	0	0	0	0
14.6K	FABCO	FSD-14A	All	0	0	0	0
16K	MERITOR	RF-16-145	All	0	0	0	0
-	-	MX-16-120	All	0	0	0	0
-	FABCO	SDA-1600	All	0	0	0	0
18K	MERITOR	RF21-160	All	0	0	0	0
-	-	RF21-155	All	0	0	0	0
-	-	RF21-160	All	0	0	0	0
-	FABCO	SDA-1800	All	0	0	0	0
21K	MERITOR	RF21-355	All	0	0	0	0
-	-	RF21-155	All	0	0	0	0
-	-	RF21-160	All	0	0	0	0
-	FABCO	SDA-2100	All	0	0	0	0
23K	MERITOR	MX23-160	All	0	0	0	0
-	-	RF21-160	All	0	0	0	0
-	-	RF23-180	All	0	0	0	0
-	-	RF23-185	All	0	0	0	0
-	FABCO	SDA-2300	All	0	0	0	0

CASTER

NOTE:

Caster is controlled by factory installed wedges between the springs and axle. Caster set too low for a specific vehicle may result in wander or returnability complaints.

Meritor and Dana Front Non-Drive Steer Axle Caster Specifications

Axle Rating	Degrees	
-	Left	Right

6K	3.5 to 5.0	4.0 to 5.5
7K	3.5 to 5.0	4.0 to 5.5
8K	3.5 to 5.0	4.0 to 5.5
8.5K	4.5 to 6.0	5.0 to 6.5
9K	4.5 to 6.0	5.0 to 6.5
10K	4.5 to 6.0	5.0 to 6.5
11K	4.5 to 6.0	5.0 to 6.5
12K	4.5 to 6.0	5.0 to 6.5
12.35K	4.5 to 6.0	5.0 to 6.5
13K	4.5 to 6.0	5.0 to 6.5
13.2K	4.5 to 6.0	5.0 to 6.5
14K	4.5 to 6.0	5.0 to 6.5
14.6K	4.5 to 6.0	5.0 to 6.5
16K	4.0 to 5.5	4.5 to 6.0
18K	4.0 to 5.5	4.5 to 6.0
20K	4.0 to 5.5	4.5 to 6.0
22K	4.0 to 5.5	4.5 to 6.0

NOTE:

The right caster angle should be equal to or greater (more positive) than the left caster angle, but not exceeding 1 degree greater.

Hendrickson Front Non-Drive Steer Axle Caster Specifications

Axle Rating	Degrees
-	Left / Right
12K	4.5 to 6.0
12.35K	4.5 to 6.0
13K	4.5 to 6.0
13.2K	4.5 to 6.0
14K	4.5 to 6.0

14.6K	4.5 to 6.0
-------	------------

NOTE: The caster shims need to be equal on both right and left sides on a Hendrickson steer axle. Do not attempt to change cross-caster by adding unequal shims or by bending the axle.

Front Drive Steer Axle Caster Specifications

Axle Rating	Degrees
-	Left / Right
9K	2.0 to 4.0
10K	4.0 to 5.5
12K	4.0 to 5.5
14K	4.0 to 5.5
16K	5.0 to 6.5
18K	5.0 to 6.5
21K	5.0 to 6.5
23K	4.0 to 5.5

 Hide Details

Feedback Information

Viewed: 2797

Helpful: 568

Not Helpful: 639

No Feedback Found