

LAZER CHASSIS *The Ultimate Weapon*

2012

Serial # 1703 & Higher
Updated 10/20/11



Manufactured By:
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Dear Valued Customer,

Congratulations on your purchase of a precision crafted Lazer Racing Chassis by Bernheisel Race Cars. We take great pride in supplying the high level of quality and service our customers have come to know and expect.

On the bottom of this page is your chassis serial number. Please refer to this number when calling for parts or technical assistance.

Our goal is to help you improve your racing program no matter what level you are now racing at. The following pages should assist you in that regard. You are also welcome to access our website @ www.bernheiselracecars.com or call our tech line at **717-865-6691** for further information.

Thank you and Good Luck. Jim Bernheisel-president

Customer:

Serial:

Date:

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THE PURCHASER ASSUMES ALL RESPONSIBILITY



Front Suspension

I. Standard Front End (black spindles)

- A. Upper Control Arms
 - 1. Right– 8 1/4” w/ 3/4” spacers
 - 2. Left– 11 1/2” - Mounted inside frame

- B. A-arm sliders – top of frame to top of block
 - 1. Single position mounts
 - a. Left front– 4 3/8”
 - b. Left rear– 4 1/8”
 - c. Right front– 3 3/8”
 - d. Right rear– 3 1/8”
 - 2. Dual position mounts
 - a. Left front– 5 3/8”
 - b. Left rear– 5 1/8”
 - c. Right front– 4 3/8”
 - d. Right rear– 4 1/8”
 - 3. Dual position mounts
 - a. Left side– use bottom holes
 - b. Right side– use bottom holes

- C. Lower control arms
 - 1. Left– 17 1/8” on center
 - 2. Right– 19 3/4” on center

- D. Strut rods– Initial setting- As short as possible
 - 1. LF Front strut– 22” tube
 - 2. RF Rear strut– 20” tube

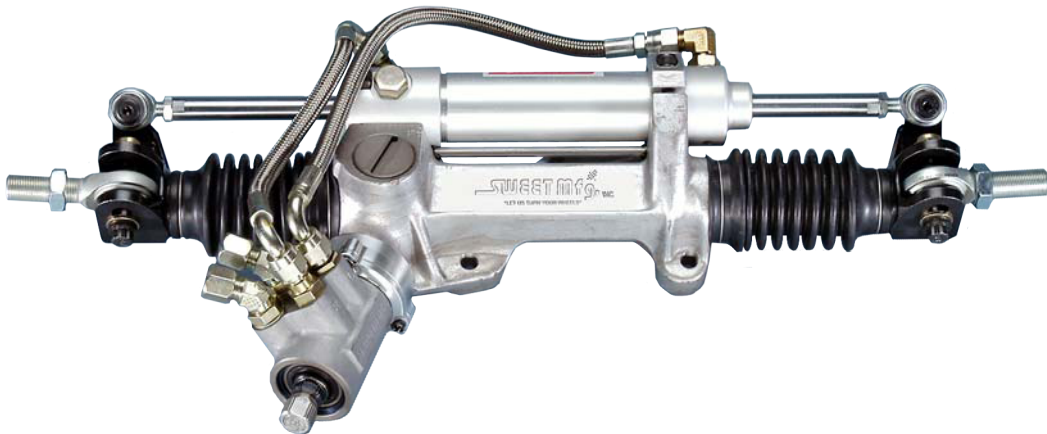




Front Suspension-continued

E. Rack spacers-at mount (Center rack in slots on frame bracket) 1/4"

Sweet w/ slotted rack eyes recommended



F. 18 1/4" Rack- baseline 4" w/ .220 servo

G. Bump steer spacers

1. Standard spindle RS- 1/8" spacer LS- no spacer
2. Ackerman spindle RS- 3/8" spacer LS- 1/4" spacer
3. At rack- Sweet Slotted- Put tie rods in bottom of slots
Any style rack- Lay a straight edge across top of main frame rails. From top frame to center of heim 5 5/8" on both sides.
4. Ackerman spindle steering arm settings (center of ball joint to center of heim)
RS- 4 15/16" LS- 5 1/16"



H. Tie rod tubes- 16" tube RS (Use RS to adj. Toe out)
15" tube LS (18" Center to Center)



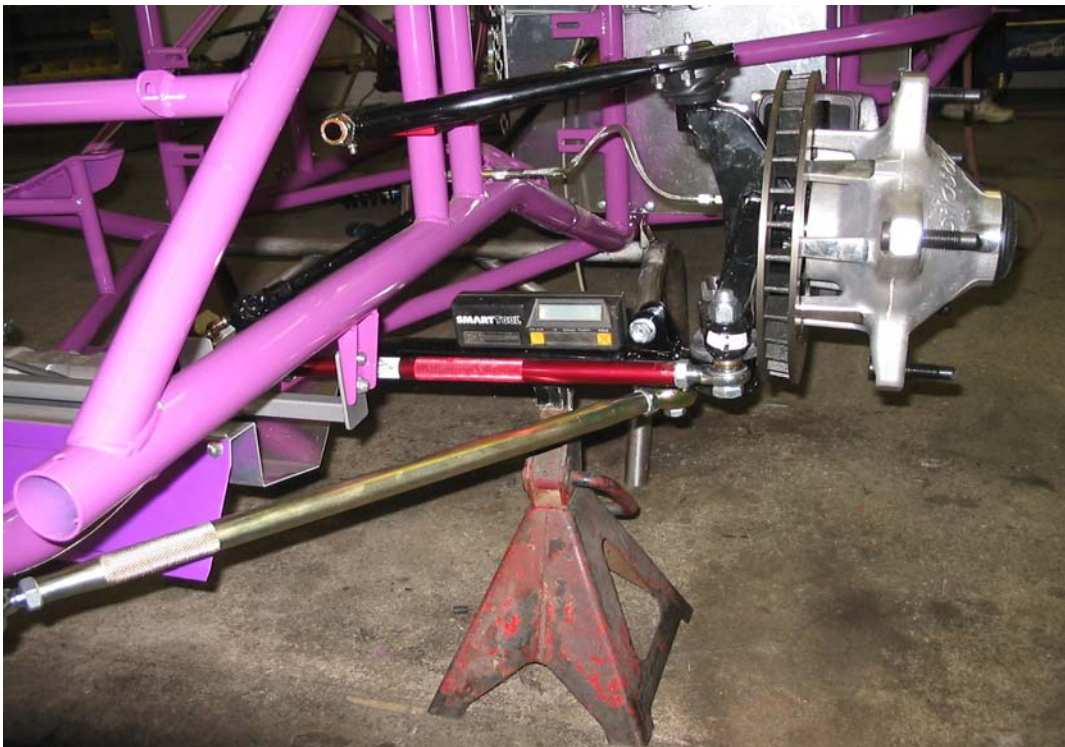
Front Suspension-continued

I. Alignment

1. Camber– Right side, 5 degrees Neg. Left side, 4 1/2 degrees Pos.
2. Caster– Right side, 6 1/2 degrees Left side, 3 1/2 degrees
3. Toe 3/8" out
4. Bump steer– If Rack & Tie-Rod spacers are used as Instructed, Bump Steer Will be Correct
5. Alignment Procedure
 - Place the chassis on 4 jack stands
 - Level car front to back & side to side
 - Remove coil-overs
 - Support lower control arms to simulate ride height (use #8415 ride height sticks)
 - Adjust strut rod length to set *caster*
 - Space upper control arm in & out to set *camber*

J. Front ride height

1. Right lower control arm 1.5 – 2.2 degrees
 2. Left lower control arm 2.8 – 3.5 degrees
- Both are uphill from chassis to wheel





Front Suspension

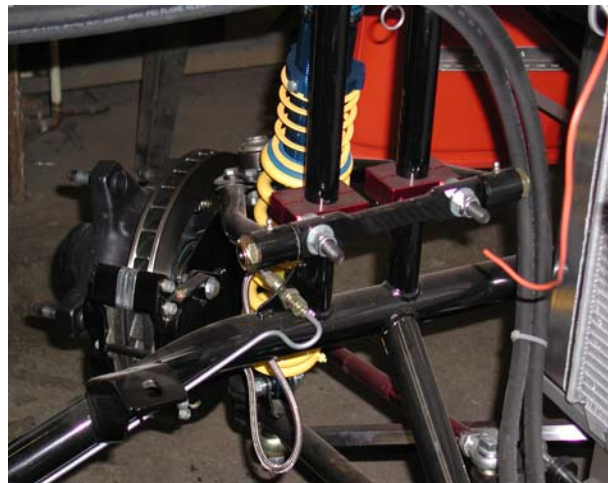
I. Diamond Front End (silver spindles)

- A. Upper Control Arms
 - 1. Right– 8 1/4” w/ 1” spacers
 - 2. Left– 11 1/2” - Mounted inside frame

- B. A-arm sliders – top of frame to top of block
 - 1. Single position mounts
 - a. Left front– 5 3/8”
 - b. Left rear– 5 1/8”
 - c. Right front– 4 3/8”
 - d. Right rear– 4 1/8”
 - 2. Dual position mounts
 - a. Left front– 5 3/8”
 - b. Left rear– 5 1/8”
 - c. Right front– 4 3/8”
 - d. Right rear– 4 1/8”
 - 3. Dual position mounts
 - a. Left side– use top holes
 - b. Right side– use top holes

- C. Lower control arms
 - 1. Left– 16 5/8” on center
 - 2. Right– 19 3/4” on center

- D. Strut rods– Initial setting- As short as possible
 - 1. LF Front strut– 21” tube
 - 2. RF Rear strut– n/a 1 pc lower



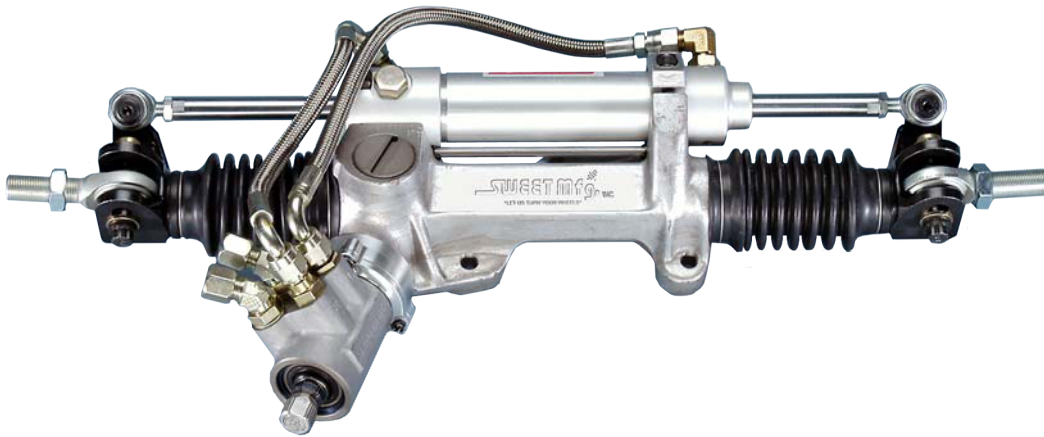


Front Suspension-continued

E. Rack spacers-at mount (Center rack in slots on frame bracket) 1/4"



Sweet w/ slotted rack eyes recommended



F. 18 1/4" Rack- baseline 4" w/ .220 servo

G. Bump steer spacers

1. Standard spindle RS- 1/2" spacer LS- 1/2" spacer
2. At rack- Sweet Slotted- Put tie rods in bottom of slots
Any style rack- Lay a straight edge across top of main frame rails. From top frame to center of heim 5 5/8" on both sides.

”



H. Tie rod tubes- 16" tube RS (Use RS to adj. Toe out)
14" tube LS (17 1/4" Center to Center)



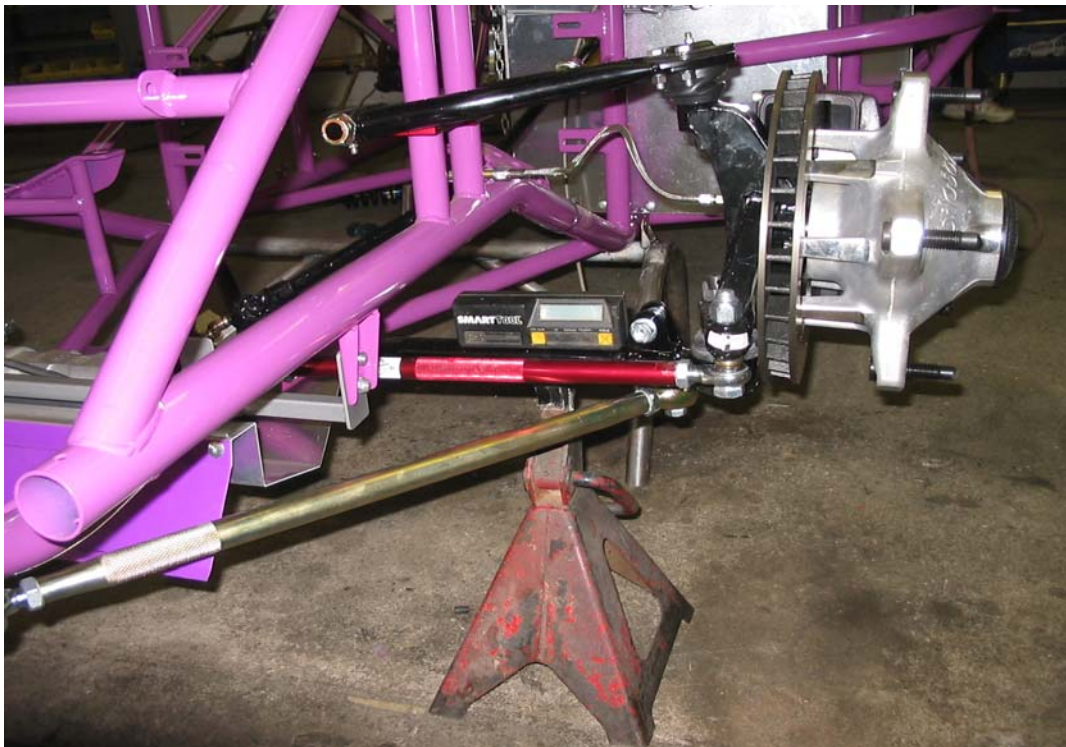
Front Suspension-continued

I. Alignment

1. Camber– Right side, 5 1/2 degrees Neg. Left side, 5 1/2 degrees Pos.
2. Caster– Right side, 3 degrees Left side, 1 degree
3. Toe 1/2" out
4. Bump steer– If Rack & Tie-Rod spacers are used as Instructed, Bump Steer Will be Correct
5. Alignment Procedure
 - Place the chassis on 4 jack stands
 - Level car front to back & side to side
 - Remove coil-overs
 - Support lower control arms to simulate ride height (use #8415 ride height sticks)
 - Adjust strut rod length to set *caster*
 - Space upper control arm in & out to set *camber*

J. Front ride height

1. Right lower control arm 4.5 – 5.2 degrees
 2. Left lower control arm 2 – 2.8 degrees
- Both are uphill from chassis to wheel





4 Link Rear Suspension

II. 4 Link Rear Suspension

A. Lift Bar Slider– 13 1/4” center to center from top right rail

B. Lift Bar– Adjustable 30” - 44”

1. 5/8” Bolt in top (grade 8)- Head @ Heim
2. 1/2” Bolt in bottom (grade 8)- Head @ Heim
3. 7/8” Spacer between rod end and plate
4. Mount on right side of aluminum plate
5. Use spacer for strength between plates
6. Initial setting– 4th hole (middle)
7. Lift bar side brace- 7” tube 10 1/4” on center
8. Rear end through bolts on lift bar plates torque to 35 ft. lbs.
(Over tightening can cause breakage)



C. Rear End Adjustment (side to side)

1. Left upper torque arm plate to left ride height tab– 13 1/2” w/Ride height @ 8 7/8” LR and 8 5/8” RR
2. Panhard bar
 - a. R.S. pinion- 2nd from bottom (4 hole mount) 0 mark on slotted mount
 - b. At frame w/ 3 position bracket. 3rd hole from top #3– Middle row of holes 0 mark on slotted mount
 - c. 21” center row (Note option for 19” or 23” Panhard) 21” is baseline setting
19” recommended for stop and go or slick tracks
23” recommended for rough and extremely heavy tracks



4 Hole Mount



Walk-up Mount



Walk-up Brkt.



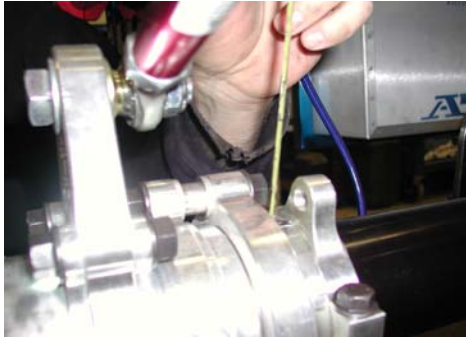
3 Position Brkt



4 Link Rear Suspension- Continued

D. Rear Ride Height

1. TWM birdcages– tab to top of birdcage body (Smallest part of birdcage)
 - a. Left ??? Depends on LR bite (8 7/8” to 9 1/2”)
 - b. Right 8 5/8”



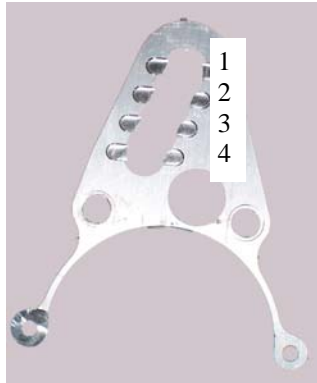
E. Pinion Angle– 7.5 degrees negative- Put angle finder on rear cover nuts

F. Birdcage– Assembly and Location

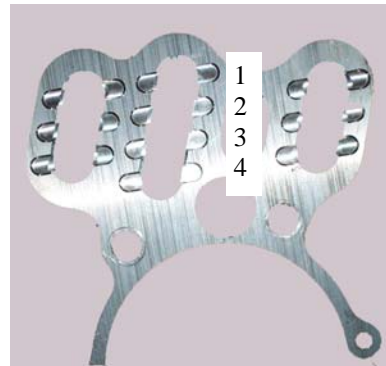
1. Shock Brackets

- a. L.S. Front– top holes– shock low (adjust to allow chain to limit drop)
Use #84175 to limit LR axle drop. Drop is measured axle tube to tab. Reference setup packages for drop measurement.
- b. L.S. Rear– lower holes outside of birdcage towards the wheel
- c. R.S. Front– lower holes inside of birdcage towards center of the car
- d. both RR and LRB are 6” of drop measure from the bottom of the axle tube

G. Brake Brackets– located by the birdcage, pin to axle tube with supplied bolts



Right side upper rod



Left side upper rod

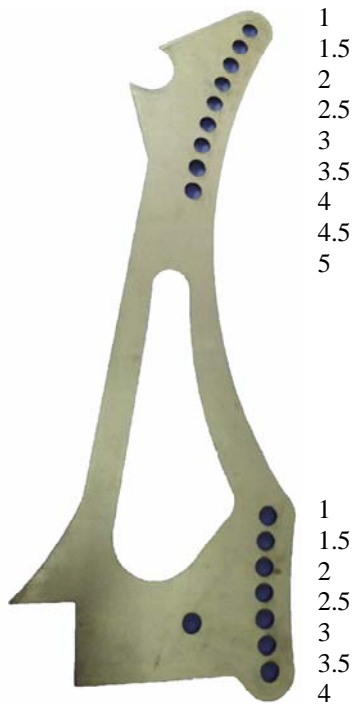


4 Link Rear Suspension- Continued

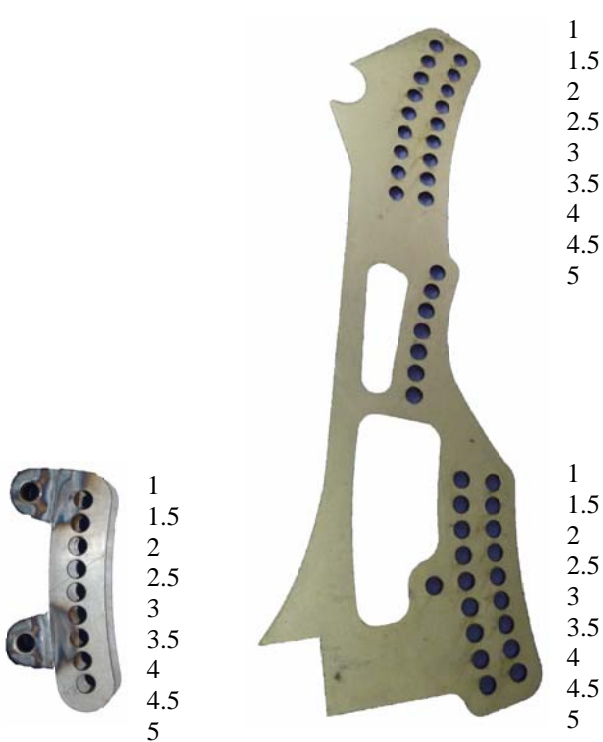
H. TWM Birdcages 4 Link Rods-Neutral Setting

1. L.S. rods on outside of birdcage with 1/2" spacer w/ supplied 1/4" spacer (total of 3/4")
2. R.S. rods on inside of birdcage with 1/4" spacer
3. 4 link rods in frame brackets installed w/ BRC spacer # 83040, On LS rods install all the way to the right w/ #83040. use spacer #83041 on left side of heim
4. Upper rods
 - a. 14" tube
 - b. 17 1/2" on center
 - c. LS- Long rod (1" shorter rod optional) Center set of slots # 1 Index
 - d. RS- # 1 Index
 - e. Frame hole from top- # 3 (Both upper rods)
5. Lower rods
 - a. 12" tube
 - b. 15 1/2" on center (LS short rod, 1" longer rod optional)
 - c. Frame hole from top- # 3
 - d. Bottom holes on birdcage

Right side bracket



Left side bracket



Short Right lower #8410-1



4 Link Rear Suspension- Continued

J. Square Rear

1. Set 4 link rods accurately or
2. Drop a plumb bob from axle tube and measure to 2 x 2 outriggers

K. Damper Shock– 6” stroke

1. Center hole on rear (vertically)
2. Back holes on frame plate
3. 3rd hole from top on frame

L. Rear Shocks Aluminum Brackets

1. Over rail rear clip (gap between frame rail and slider mount)
 - a. Right 3 1/2”
 - b. Left Front 3 1/4”
 - c. Left Behind 3”

M. 5th Coil Pre-load

1. 7” Shock
2. 10” Spring
3. Center hole on lift bar
4. Back off when scaling car
5. Adjust nut until coil is seated
6. Pre-load– reference setup pages
7. Straight up & down– No angle

N. Rear Alignment Procedure

- Place the chassis on 4 jack stands
- Level car front to back and side to side
- Remove rear coil-overs
- Support rear housing to simulate ride height (use #8415 ride sticks)
- Set 4-link rods center to center
- Adjust Mini-sixth coil to set pinion angle
- Adjust panhard bar to set side to side measurement



General Information

III. General Information

A. All scale work with 20 Gallons of Fuel

B. Wheel offsets all 5"

C. Stagger

1. Front- 1"

2. Rear- 3 1/2"

D. Percentages

1. Left side- 52%

2. Rear- 54%

(Note: w/o driver- w/ 15 or 20 gallons of fuel , % Based on 200# driver, More than 20# variance may require adjustment, Battery may be moved to left side for a Lighter driver please call for assistance)

E. LR Bite

See set-up packages for recommended weights

F. Drive Shaft

1. Bert Ballspline- 38"-38.5"

2. Std. Bert- 38" with extra long yoke

3. Brinn & Falcon- 35" with extra long yoke

G. Master cylinder

Tacky Track

1. Front- 1"

2. Rear- 7/8"

Slick Track

Front- 7/8"

Rear- 1"

H. Axles

1. R.R. 36"

2. L.R. 32 1/2"



Replacement Parts

IV. Replacement Parts

Standard Front Suspension Hybrid Strut

Left upper control arm– 01-1120DBJS
Right upper control arm– 03-0810S
Upper ball joint– 20031 LS / 20034 RS
Left lower control arm– 25-1170-5
Right lower control arm– 21195
Lower ball joint– 20036
Strut tube– 14020 RS / 14022 LS
Strut end– RD5 RS / RD3 LS
Tie rod tube– 12016 RS / 12015 LS
Standard left spindle– 30397
Standard right spindle– 30398
Ackerman left spindle– 40397A
Ackerman right spindle– 40398A
5/8 Heims– CM10 / CM10L
5/8 Jam Nuts– SJNR10 / SJNL10
3/4 Heims– CM12 / CML12
3/4 Jam Nuts– SJNR12 / SJNL12
3/4 to 5/8 reducer– 10475

Front Suspension Options

Howe upper ball joint– 22300 LS / 22320 RS
Howe lower ball joint– 22412
Howe right upper control arm– 2213307H
Howe left upper control arm– 2214500H
Joe's bearing right upper control arm– 15705-slb
Joe's bearing left upper control arm– 15370-slb



Replacement Parts continued

Diamond Front Suspension Hybrid Strut

Left upper control arm– 01-1120DBJS
Right upper control arm– 03-0810S
Upper ball joint– 20031 LS / 20034 RS
Left lower control arm– 25-1160-5
1 Pc. Right lower control arm– 21195-1
Lower ball joint– 20036
Strut tube– 14021 LS
Strut end– RD3 LS
1 pc. Lower adjuster– 72008
Tie rod tube– 18016 RS / 12014 LS
Diamond left spindle– 30397-1
Diamond right spindle– 30398-1
5/8 Heims– CM10 / CM10L
5/8 Jam Nuts– SJNR10 / SJNL10
3/4 Heims– CM12 / CML12
3/4 Jam Nuts– SJNR12 / SJNL12
3/4 to 5/8 reducer– 10475

Front Suspension Options

Howe upper ball joint– 22300 LS / 22320 RS
Howe lower ball joint– 22412
Howe right upper control arm– 2213307H
Howe left upper control arm– 2214500H
Joe's bearing right upper control arm– 15705-slb
Joe's bearing left upper control arm– 15370-slb



Replacement Parts continued

G-2 Rear Suspension

TWM Left Birdcage– 119-341860
TWM Right Birdcage– 119-421560
Bolt on shock mount– 20390
Lift bar– 29201
Lift bar plates– 29100 (alum.) 29100S (steel)
Lower radius rod tubes– 12012
Lower bent radius rod tubes– 18012
Upper radius rod tubes– 12014
Lift bar link rod– 12007
Panhard bar– 20225K-21
Pinion mount– 82149
Mini 6th coil assy.– 26400
Over rail Integral Panhard Mount– 82129S

Rear Suspension options

Walk-up pinion mount– 84027
Walk-up frame mount– 83076
Full swivel 6th coil– 26401



Set-up Packages

V. Set-up Packages

Note: All setups based on AFCO Silver Series, Ohlins LMP or LMJ, or Genesis G1. Both Left Rear shocks should be approximately 25" fully extended

A. Soft Left Rear-Baseline Setup

1. Springs

	L.F.	500#	R.F.	375#
(Behind)	L.R.	200#	R.R.	250#

2. Shocks

	L.F.	75	R.F.	74-12
(Front)	L.R.	96-0	R.R.	94.5
(Behind)	L.R.	96-4		

3. 4-Link Bars, All neutral settings except R.H. lower #2 on frame
L.H. upper short rod #2 1/2 on frame
L.H. lower #2 1/2 on frame

4. Panhard, All standard settings at pinion, Down 1 hole at frame

5. 60# L.R. Bite

6. 5th Coil Middle hole 300# spring 73-5 shock 1/4" Preload

7. 14 1/4" LR drop

Works well on swooping corners w/ any banking and tacky to average surface



Set-up Packages

V. Set-up Packages

Note: All setups based on AFCO Silver Series, Ohlins LMP or LMJ, or Genesis G1. Both Left Rear shocks should be approximately 25" fully extended

B. Soft Left Rear-Slick Setup

1. Springs

	L.F.	550#	R.F.	325#
(Behind)	L.R.	200#	R.R.	225#

2. Shocks

	L.F.	75	R.F.	73-15
(Front)	L.R.	94-0	R.R.	93-6
(Behind)	L.R.	98-3		

3. 4-Link Bars, All neutral settings except R.H. lower #3 on frame
 L.H. upper short rod #2 1/2 on frame
 L.H. lower #2 1/2 on frame

4. Panhard, All standard settings

5. 60# L.R. Bite

6. 5th Coil 3rd hole from front 250# spring 73-7 shock 1/2" preload

7. 14 3/4" LR drop

Works well on swooping corners w/ any banking and slick surface



Set-up Packages

V. Set-up Packages

Note: All setups based on AFco Silver Series, Ohlins LMP or LMJ, or Genesis G1. Both Left Rear shocks should be approximately 25" fully extended

C. Stacked Left Rear-Slick Setup

1. Springs

	L.F.	500#	R.F.	325#
(Behind)	L.R.	4" 400# Over 10" 225#	R.R.	225#

2. Shocks

	L.F.	75	R.F.	73-12
(Front)	L.R.	none	R.R.	94-7
(Behind)	L.R.	911-4		

3. 4-Link Bars, All neutral settings except L.H. upper short rod #2 1/2 on frame
L.H. lower #2 on frame
R.H. lower short rod #3 on frame
(#8411-1 bracket required to run short rod)

4. Panhard, All standard settings

5. 100# L.R. Bite

6. 5th Coil 3rd hole from front 200# spring 73-7 shock 1/2" preload

7. 14 3/4" LR drop

Works well on swooping corners w/ any banking and slick surface



Set-up Packages

V. Set-up Packages

Note: All setups based on AFCO Silver Series, Ohlins LMP or LMJ, or Genesis G1. Both Left Rear shocks should be approximately 25" fully extended

D. Big Left Rear-Baseline Setup

1. Springs

	L.F.	550#	R.F.	350#
(Behind)	L.R.	275#	R.R.	250#

2. Shocks

	L.F.	75-3	R.F.	74-10
(Front)	L.R.	96-0	R.R.	94-5
(Behind)	L.R.	95-3		

3. 4-Link Bars, All neutral settings except L.H. upper rod #3 index on birdcage

4. 19" Panhard, All standard settings

5. 40# L.R. Bite

6. 5th Coil Middle hole 300# spring 73-7 shock 1/4" preload

7. 14 1/4" LR drop

Works well on Stop and Go, Tight Corners w/ flat to moderate banking and average surface



Set-up Packages

V. Set-up Packages

Note: All setups based on AFCO Silver Series, Ohlins LMP or LMJ, or Genesis G1. Both Left Rear shocks should be approximately 25" fully extended

E. Big Left Rear-Slick Setup

1. Springs

	L.F.	600#	R.F.	325#
(Behind)	L.R.	300#	R.R.	225#

2. Shocks

	L.F.	75-2	R.F.	73-15
(Front)	L.R.	94-0	R.R.	93-6
(Behind)	L.R.	96-2		

3. 4-Link Bars, All neutral settings except R.H. lower #4 on frame
L.H. upper rod #3 index on birdcage

4. 19" Panhard, All standard settings on frame, down 1/2" on pinion

5. 40# L.R. Bite

6. 5th Coil 3rd hole from front 250# spring 73-7 shock 1/4" preload

7. 14 3/4" LR drop

Works well on Stop and Go, Tight Corners w/ flat to moderate banking and slick surface



Crate Set-up Packages

V. Set-up Packages

Note: All setups based on AFCO Silver Series, Ohlins LMP or LMJ, or Genesis G1. Both Left Rear shocks should be approximately 25" fully extended

F. Crate-Baseline Setup

1. Springs

	L.F.	450#	R.F.	350#
(Behind)	L.R.	225#	R.R.	225#

2. Shocks

	L.F.	75	R.F.	74-8
(Front)	L.R.	96-0 Gas	R.R.	94.5
(Behind)	L.R.	95-3		

3. 4-Link Bars, All neutral settings except R.H. lower #2 on frame
L.H. upper #2 index on birdcage
L.H. lower #2 on frame

4. Panhard, All standard settings on pinion, down 1 on frame

5. 20# L.R. Bite

6. 5th Coil 5th hole from front 300# spring 73 shock 1/4" preload

7. 14 1/4" LR drop

Works well on tacky to average track with Crates or any low horsepower application



Crate Set-up Packages

V. Set-up Packages

Note: All setups based on AFCO Silver Series, Ohlins LMP or LMJ, or Genesis G1. Both Left Rear shocks should be approximately 25" fully extended

G. Crate-Slick Setup

1. Springs

	L.F.	500#	R.F.	325#
(Behind)	L.R.	225#	R.R.	225#

2. Shocks

	L.F.	75	R.F.	73-10
(Front)	L.R.	94-0	R.R.	94-5
(Behind)	L.R.	96-3		

3. 4-Link Bars, All neutral settings except

L.H. upper #2 index on birdcage, #2 on frame
L.H. lower #2 1/2 on frame

4. Panhard, All standard settings on pinion

5. 30# L.R. Bite

6. 5th Coil middle hole from front 250# spring 73-5 shock 1/4" preload

7. 14 3/4" LR drop

Works well on slick tracks with Crates or any low horsepower application



Set-up Packages

V. Set-up Packages

Note: All setups based on AFCO Silver Series, Ohlins LMP or LMJ, or Genesis G1. Both Left Rear shocks should be approximately 25" fully extended

H. Left Rear-Clamped in Front

1. Springs

	L.F.	500#	R.F.	350#
(Behind)	L.R.	225#	R.R.	225#

2. Shocks

	L.F.	75-2	R.F.	74-8
(Front)	L.R.	94	R.R.	94-5

3. 4-Link Bars, Z Link both sides 2nd hole from bottom
Lower rods both side neutral

4. Panhard, Standard settings, down 1 on frame

5. 50# L.R. Bite

6. 5th Coil Middle hole 200# spring 73 shock 1/4" preload

7. LRF shock bracket in lowest position

Works well on Rough Tacky Tracks or Low Horsepower Applications

Please Remember:

These are basic setups designed to give you a base line starting point. Your situation may require additional tuning. There are literally millions of adjustments and combinations. For maximum results the best total package for your driver and track conditions must be achieved. There is no magic. Keep good records and work hard.



1. Both left side shocks should be approximately 25" center to center fully extended. Various brands and styles require different extensions.
2. BRC Shocks are Specialty components built exclusively for us by Afco. They are built to our specifications. The following chart shows what they most closely compare to.

BRC-1	75-2
BRC-2	73-5
BRC-22	73-8
BRC-222	75-10
BRC-3	96-2
BRC-3G	96-2 Gas
BRC-33	97-1
BRC4	94-5
BRC44	95-8
LRB	93-0

3. R.R. Behind, can be used to enhance corner entry with little or no effect on corner exit.
Use a part# 320-157 R.R. clamp bracket with a 1390 shock and 100# spring.

TWO OPTIONS

A) Normal R.R. Spring
Add R.R. Behind
W/ Zero Pre-load

B) Soften R.R. Spring 50-75#
Load Behind Spring to
get back desired L.R. Bite



Tech Tips

1. Four Link

- A. More angle upward angle on rods (toward chassis) increases loading on that wheel (up in front, down in back)
- B. Rod angle changes also affect roll steer (typically lowering the lower rods at the frame decreases roll steer)
- C. Roll steer generally loosens the car through the center of the corner
- D. Lowering left upper rod on birdcage greatly increases initial drive off however also increases rotation on initial throttle up
- E. Specific rod angles
 - 1. Drop right upper for slick track (On frame)
 - 2. Drop left upper for tacky track (On frame)
 - 3. Raise right lower for tacky track (On frame)
 - 4. Raise left lower for slick track– Also increases roll steer(On frame)
 - 5. Lower right lower for slick track– Also decreases roll steer (On frame)
 - 6. Lower left upper on birdcage (Commonly called indexing)
- F. Left lower 4-link bar

When tuning on the car for maximum drive such as a soft rebound L.R. shock, Indexing the birdcage, and raising the left lower bar interference can occur. The left lower bar can come in contact with the birdcage causing a suspension bind or possibly even rod failure. To correct this condition we have available a bent steel rod . It is part# 18012

G. 4-Link Holes

Hole # 3 is neutral (Both upper & lower)



All frame adjustments for the four bar rods are on arced holes. It does not matter what hole you are in for scaling purposes. Also you can make angle adjustments at the track without changing your setup. However, when indexing down on the left upper birdcage you lose approx. 10#s of wedge per slot. (30#s if you go all the way down) This is because the slot is straight instead of curved. It is not necessarily a bad thing to reduce wedge when indexing, but be aware that it happens.

Common 4-Bar Adjustments

Left Upper-

- #3 on frame #2 birdcage slot– Tacky track
- #3 on frame #3 birdcage slot– Average track tight corners
- #2 on frame #2 birdcage slot– Average track momentum corners
- #1 on frame #1 birdcage slot- Super slick momentum corners
- #3 on frame #4 birdcage slot- Super slick tight corner track

Note: Extreme indexing and height on frame can cause a bind and hurt forward drive



Tech Tips

Common 4-Bar Adjustments continued-

Left Lower-

- # 2 Frame hole- Tight corners
- # 3 Frame hole- Neutral starting point
- # 4 Frame hole- Momentum track

Right Upper-

- # 2 Frame hole- Tacky track
- # 3 Frame hole- Neutral starting point
- # 4 Frame hole- Super slick track

Right Lower-

- # 2 Frame hole- Tacky track
- # 3 Frame hole- Neutral starting point
- # 4 Frame hole- Slick track

Note: Not all holes & slots are to be used- Some are for future testing

2. Lift bar

- A. Longer and softer on the 5th coil brings weight transfer/bite in slower but lasts longer
- B. Shorter and stiffer on the 5th coil brings weight transfer/bite in faster but does not last long

3. Panhard bar

- A. Shorter and more angle exaggerates wheel loading increasing side bite for a shorter time
- B. Longer and flatter smoothes out wheel loading and side bite

4. Ballast

- A. Higher ballast causes the car to move around more (side to side and front to rear) increasing amount of weight transfer
- B. Lower ballast settles car down by limiting weight transfer
- C. A neutral spot for ballast is on the tunnel behind the shifter

5. L.R. behind setup

- A. Amount of lift (roll-up) can be controlled by a limiter chain (check LR drop by measuring ride height with rear hanging on jack stands)
Recommended measurement is 13 3/4" to 14 3/4". Drop can be more effectively tuned by using a swivel bracket #83750





Tech Tips

- B. Soft extension valving along with 1" or 2" shock end allows car to roll farther and faster (valving controls speed, extension controls distance)
6. Watts Link
- A. Many Lazer G-2 cars are equipped with a Watts Link bracket on the RR and/or LR (Note: If not equipped with one a bolt-on unit is available for many applications)
 - B. Remove RR top 4 link bar and install a new one going towards the rear
 - 1. 14" tube
 - 2. 17 1/2" on center
 - C. Use when track is rough—To lessen rear steer
7. Helper Springs
- A. A 5# helper spring on the LF ensures that the spring remains seated when car lifts
 - B. A Nylon collar is utilized with the helper spring to prevent shock damage
 - C. One can also be used on LR Behind shock— It keeps spring seated when car gets up- on the bars
8. Damper Shock
- A. A 90-10 axle damper can be used to tighten and stabilize car on corner entry
 - B. Too much angle can hurt forward bite— in that instance a 2nd shock can be added
9. Driving
- A. Momentum and slick tracks require more driver finesse and a smoother less radical setup
 - B. Stop and go tracks and traction tracks can more easily handle a radical combination and a stomp and steer driver
10. Shock Tuning
- Recent changes in shock construction and the availability of many styles and brands of shocks has added an additional variable into the mix. Make sure you are aware of the characteristics of the shocks you are using. Also when calling for tech assistance be sure to tell us what brand & style you use.
11. Short rod options
- A. Use #8410-1 on Right lower rod to run 1 1/2" shorter rod (shorter rod decreases roll steer and loses angle quicker for overall tighter handling)
 - B. Left upper rod 1" shorter rod (shorter rod gains angle quicker and provides instant drive generally used with no index and #2 position on frame)



Chassis Adjustment Guide

Adjustment Area	Adjustment To Tighten In:	Adjustment To Loosen In:	Adjustment To Tighten Off:	Adjustment To Loosen Off:
Front Springs	*Stiffen L.	*Soften L.	*Stiffen R.	*Soften R.
Front Shocks	Soften R. Comp.	Stiffen L. Ext..	*Soften L. Ext.	Stiffen Both
Rear Springs	*Stiffen R.	Stiffen L. and/or Soften R.	*Stiffen L. and/or Soften R.	*Soften L. and/or Stiffen R.
Rear Shocks	—	—	Soften L. Ext.	Stiffen L. Ext.
Stagger	*Decrease	*Increase	*Decrease	*Increase
Track Alignment	Move rear CI to L.	Move rear CI to R.	*Move rear CI to L.	*Move rear CI to R.
Bite [L.R.]	Decrease	Increase	*Increase	*Decrease
L.S. Weight	*Decrease	*Increase	—	—
Rear Weight	Increase	Decrease	*Increase	*Decrease
Torque Arm	—	—	*Lengthen w/soft spring	*Shorten w/stiff spring
Panhard Position	*Lower all or raise on frame only	*Raise all or lower on frame	—	—
Rear Steer	Lead R.R.	Lead L.R.	*Lead R.R.	Lead L.R.
Damper Position	*Raise Front	*Lower Front	—	—
Gear Ratio	—	—	*Decrease	Increase
Center of Gravity	Raise	Lower	Raise	Lower
Brake Bias	*Decrease Rear	*Increase Rear	—	—
				<i>* Recommended adjustment areas</i>

Points to Remember:

- Corner exit handling is greatly affected by corner entrance handling. Fix entrance first.
- Going too far on an adjustment can produce an effect that is opposite of what is desired
- All adjustments are made on the assumption that the tire can handle what we are giving it. We know that this is not always true.
- If adjustments produce no effects, check for suspension bind, Bent chassis, and/or defective chassis components
- Adjust stagger to affect middle of corner handling
- Document all changes! And keep good records.

NOTES: