

TO BE KEPT WITH BOAT DOCUMENTS
BEI DEN SCHIFFSPAPIEREN AUFBEWAHREN
A CONSERVER AVEC LES DOCUMENTS DU BATEAU
PA ADJUNTAR A LA DOCUMENTACIÓ DE LA EMBARCACIÓ
BÖR FÖRVARAS I BÅTEN



Ocean Hardware Spares Manual

Issue 7

LEWMAR®

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Lewmar hardware is produced to the same high standard as our winches. Our commitment to research and development has produced a range of hardware that has captured the world's attention for its design, function and engineering integrity.

The objective of this manual is to help the yachtsman by explaining how the equipment is assembled and how it can be maintained for optimum performance.

The Lewmar worldwide network of offices and distributors is able to supply all of the parts listed and can assist in the maintenance and repair of all items.

1.1 Service and Maintenance

For satisfactory long term performance and product life a few simple procedures should be followed.

The most important and simplest aspect of maintenance is to regularly wash down all equipment with fresh water to remove salt and sand deposits. This can be further improved by using hot soapy water to remove any ingrained or oily deposits.

Cars that have been in use for a long time may require additional attention. WD-40 or similar may be sprayed into the ball races to help initial movement but should later be washed out to avoid attracting dust and sand.

When fitting additional control line assemblies, ensure that the screws are coated with the anti-seize paste provided or Locktite Studlock. If end caps are removed to change balls or slide rods Locktite must be used on the screw threads.

All standard cars can run on re-circulating balls or slide rods can be up-graded to run on balls to reduce the tow load on all sizes. Delrin balls can be changed for Torlon balls (size 1 and 2).

1.2 Mounting

The new Ocean sliding bolt track adds a smooth clean image to any boat deck, it eliminates dirt traps and unlike other designs uses a washer between the track and the deck to ensure a leak-free fit.

The bolt spacing as stated in the catalogue should not be varied if the *Safe Working Load* is to be achieved. The washer fitted between each bolt and the deck must be well coated in sealant to create the best seal.

Control line end stops are supplied with bolts to locate in the track profile. Small track inserts are supplied to provide a tight fit for the fixing bolts that pass into the track.

Additional control line sheave assemblies come with different length bolts so that they may be fitted to either car or end stop.

When fitting additional sheaves to an end stop the outer of the two screws must be used so that the sheave is mounted in the centre of the end stop. This is important since the screw lengths are selected to ensure full location in the track, without which the end stop will not achieve the designed working load.

1.3 Identification

All of the standard Ocean range hardware is listed in this manual, the size of the equipment in question can be identified by the track width:-

Size 0 - 19 mm
 Size 1 - 23 mm
 Size 2 - 30 mm
 Size 3 - 35 mm

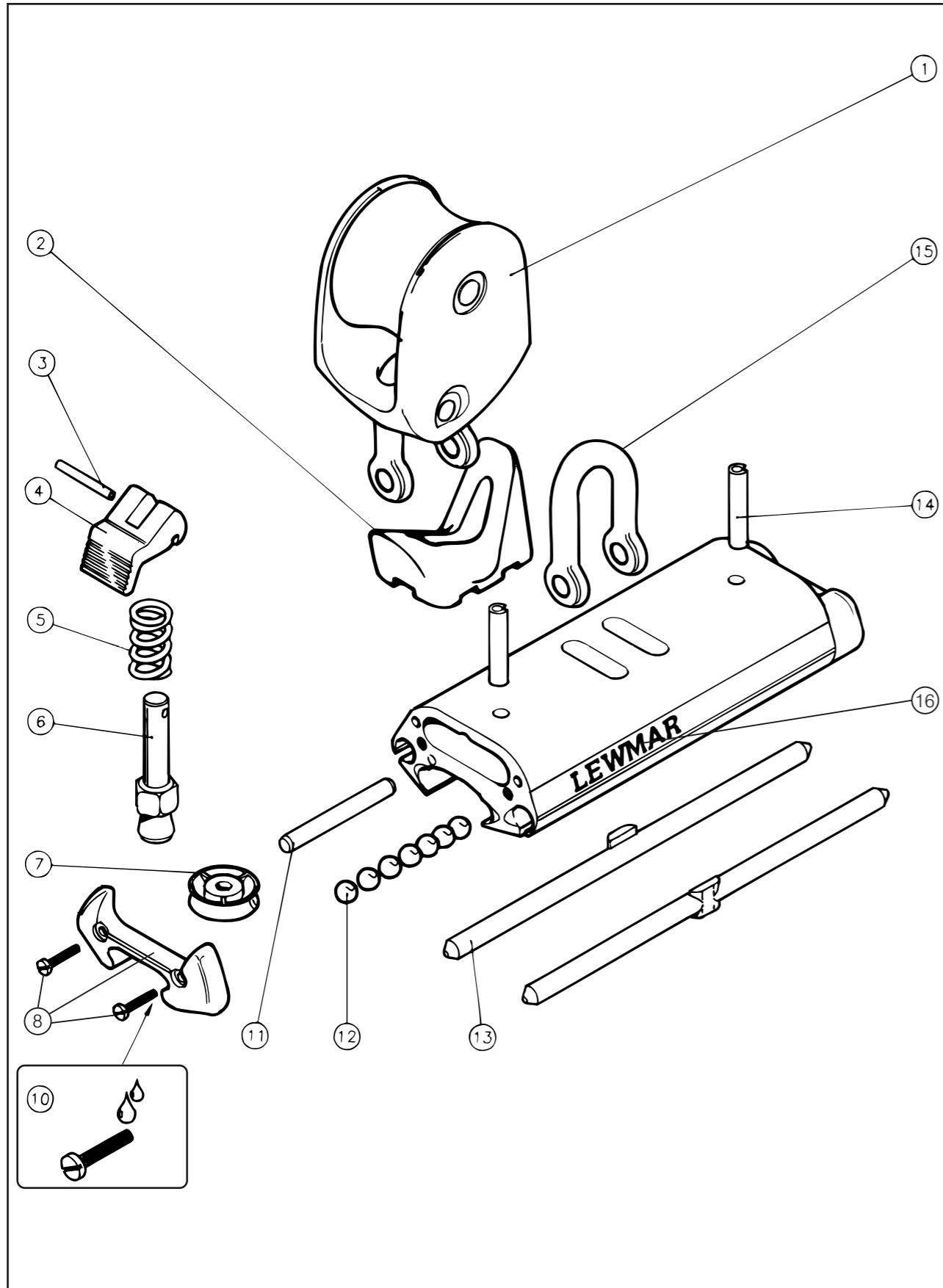
1.4 Service and Spares

Full service facilities for Lewmar products are provided at our factory and subsidiary companies and by our distributor and service centres worldwide. A full listing can be found in our catalogue.

Part pricing is subject to change. Apply to your nearest Lewmar office or distributor for current prices.

2. CARS

2.1 Size 0 Cars



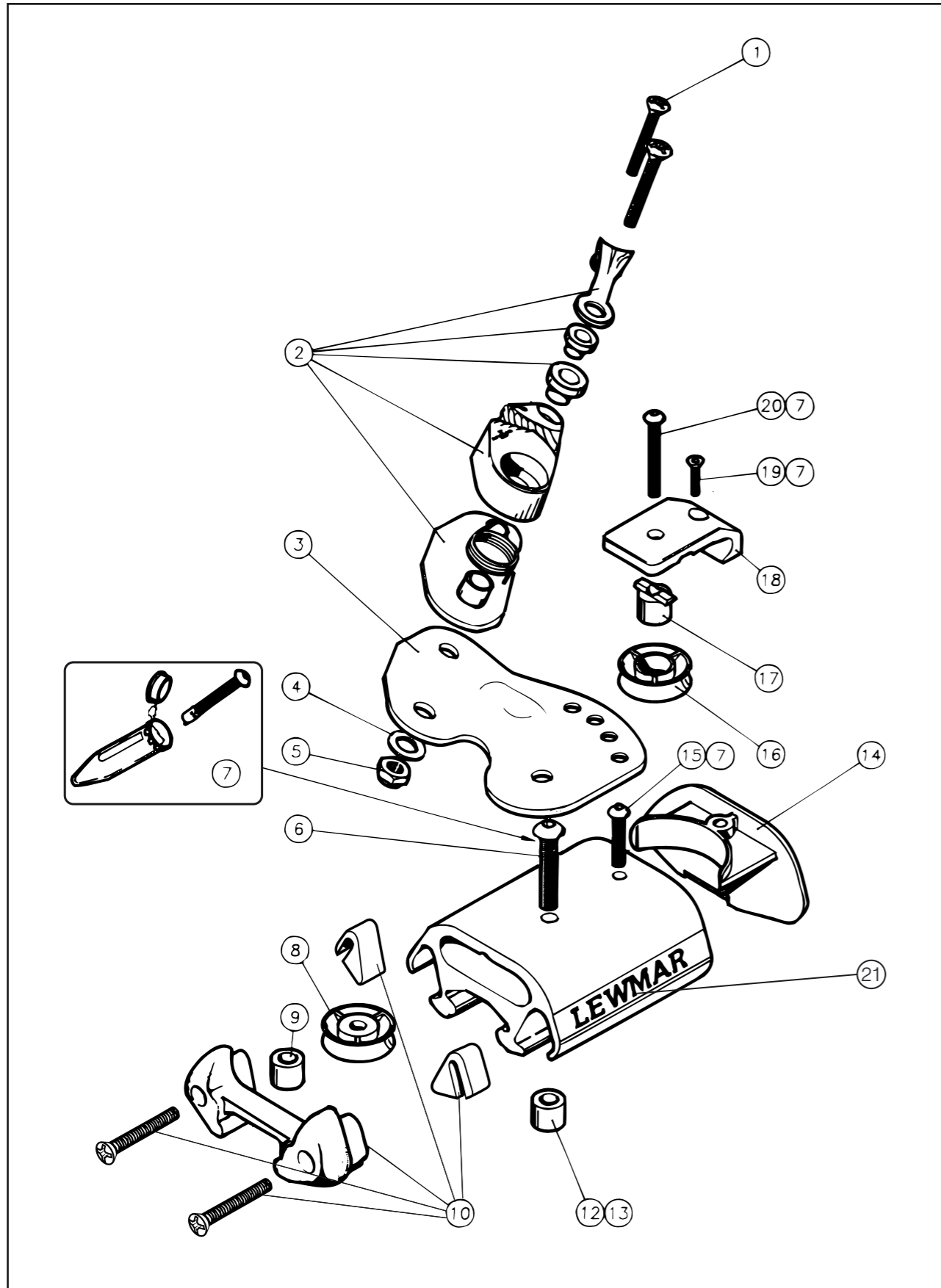
2. CARS

2.1 Size 0 Cars

Item	Description	Part Number	Assembly Number
1	Genoa Stirrup Assembly		28000801
2	Angled Rubber Uprstand	25002313	
3	Spirol Pin		29170048
4	Plunger Cam		
5	Plunger Spring		
6	Plunger		
7	Control Line Sheave	25000133	
8	End Cap Kit (Inc. Screws)		29170045
10	Use Locktite Nutloc 242E		
11	Car Spirol Pin 6 x 35	B1549	
12	Delrin Ball $\frac{3}{16}$ " x 98		29170022
13	Slide Rod (Pair)		29170026
14	Spirol Pin	B1548	
15	Shackle	25000007	
16	Lewmar Label	25000022	

2. CARS

2.2 Size 0 End Stops



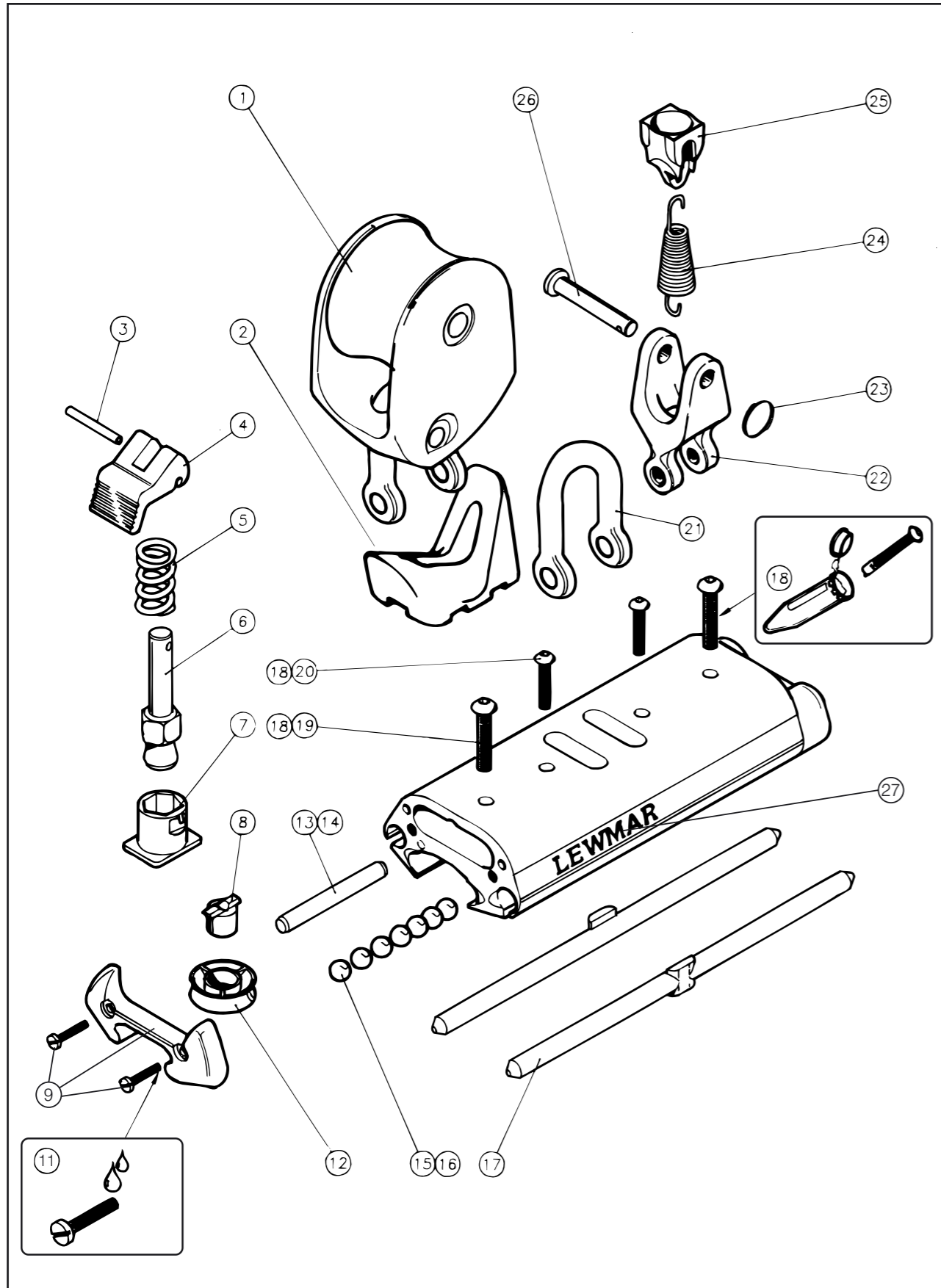
2. CARS

2.2 Size 0 End Stops

Item	Description	Part Number	Assembly Number
1	Pozi Screw	B0326-A4	
2	Cam Cleat Assembly		B2830/Assy
3	Cam Plate (Pair)		29171020
4	Washer M5	B1210-A4	
5	Nyloc Nut M5	B1078	
6	Screw M6 x 25	B4205	
7	Grease Vial	28000810	
8	Control Line Sheave (S0)	25000133	
9	Sleeve (For Dead Eye)	B4306	
10	Rubber Buffer x 2 (Including Fixings)		29170046
12	Flat Track Insert	B4300	
13	Beam Track Insert	B4311	
14	End Stop Cover	25000137	
15	Screw M4 x 16	B4200	
16	Control Line Sheave (S1)	25000009	
17	Control Line Bearing	25000010	
18	Single Sheave Strap	25000001	
19	Screw M4 x 20	B4129	
20	Screw M6 x 40 Single Cam Ends	B4210	
21	Lewmar Label	25000022	

2. CARS

2.3 Size 1 Cars



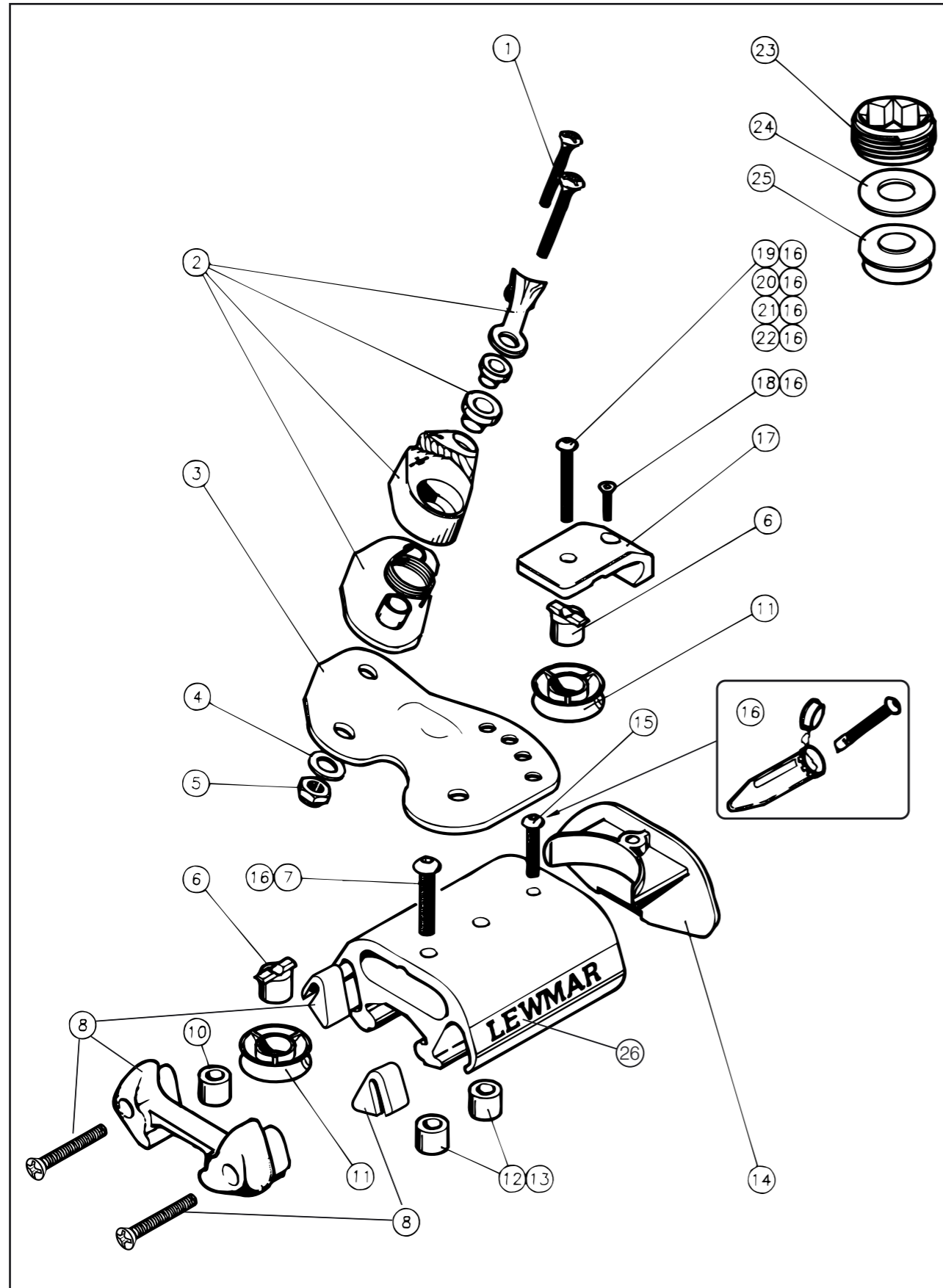
2. CARS

2.3 Size 1 Cars

Item	Description	Part Number	Assembly Number
1	Genoa Stirrup Assembly		28000801
2	Angled Rubber Upstand	25002313	
3	Spirol Pin		29171048
4	Plunger Cam		
5	Plunger Spring		
6	Plunger		
7	Plunger Sleeve		
8	Control Line Bearing	25000010	
9	End Cap Kit (Inc. Screws)		29171045
11	Use Loctite Nutloc 242E		
12	Control Line Sheave	25000009	
13	Shackle Pin Standard Car	25000008	
14	Shackle Pin 266mm Car	25000386	
15	Delrin Ball 1/4" x 84		29171022
16	Torlon Ball 1/4" x 84		29171021
17	Slide Rod (Pair)		29171026
18	Gease Vial	28000810	
19	Screw M6 x 17	B4202	
20	Screw M4 x 16	B4200	
21	Shackle	25000007	
22	Mainsheet Link		29171024
23	Split Ring		
24	Mainsheet Link Spring		
25	Mainsheet Link Cup - Bag of 10	29171043	
26	Clevis Pin		
27	Lewmar Label	25000022	

2. CARS

2.4 Size 1 End Stops



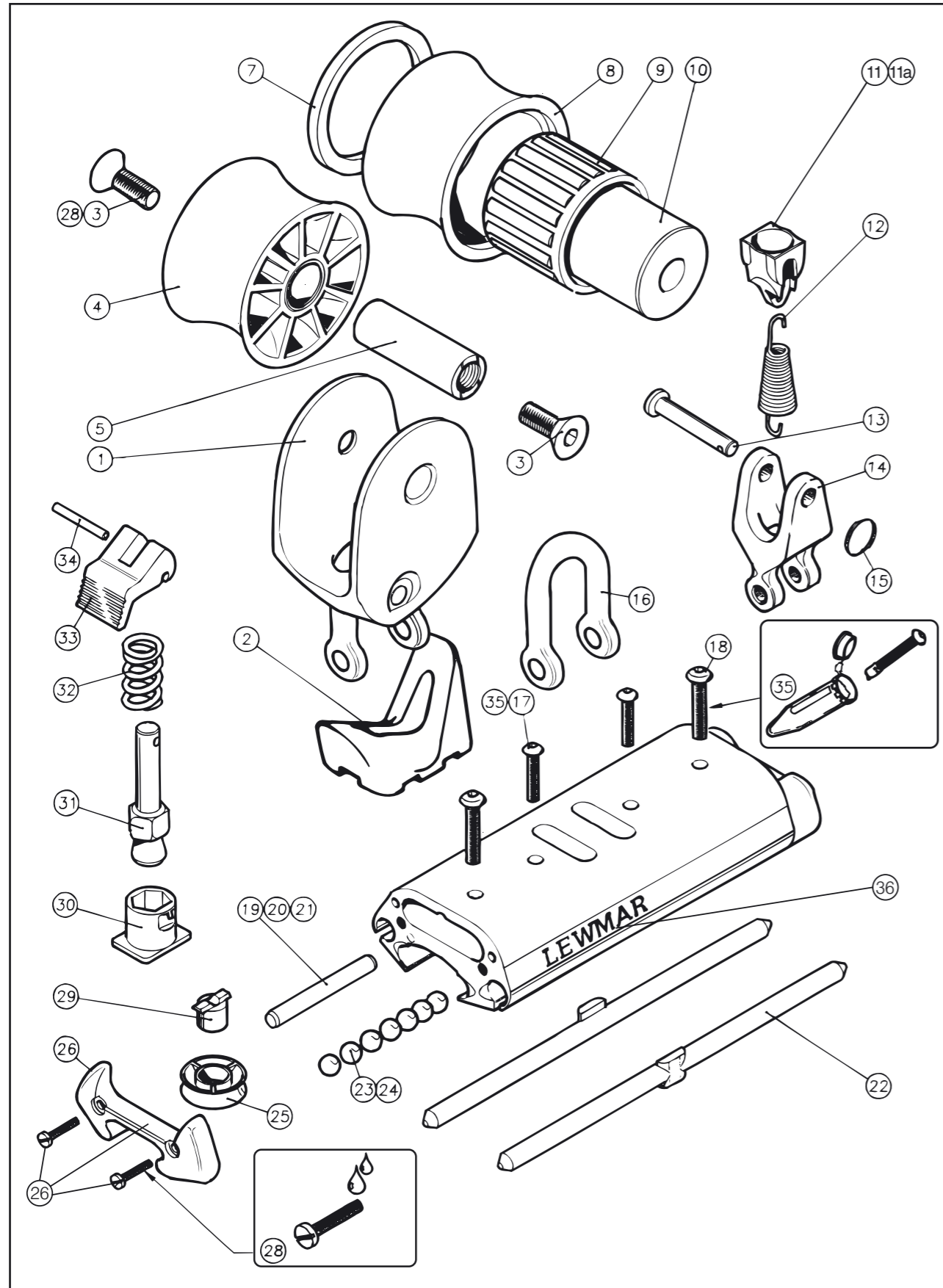
2. CARS

2.4 Size 1 End Stops

Item	Description	Part Number	Assembly Number
1	Pozi Screw	B0326-A4	
2	Cam Cleat Assembly		B2830/Assy.
3	Cam Plate (Pair)		29171020
4	Washer M5	B1210-A4	
5	Nyloc Nut M5	B1078	
6	Control Line Bearing	25000010	
7	Screw M6 x 30	B4206	
8	Rubber Buffer x 2 (Including Fixings)		29171046
10	Sleeve (for dead eye)	B4304	
11	Control Line Sheave	25000009	
12	Flat Track Insert	B4300	
13	Beam Track Insert	B4312	
14	End Stop Cover	25000014	
15	Screw M4 x 16	B4200	
16	Grease Vial	28000810	
17	Single Sheave Strap	25000001	
18	Screw M4 x 20 - Single Cam Car Ends	B4129	
19	Screw M6 x 30 - Single Car	B4206	
20	Screw M6 x 43 - Single Ends	B4211	
21	Screw M6 x 33 - Single Cam Car	B4207	
22	Screw M6 x 45 - Single Cam Ends	B4212	
23	Friction Stop Adjuster		
24	Washer		29171082
25	Friction Pad		
31	Lewmar Label	25000022	

2. CARS

2.5 Size 2 Cars



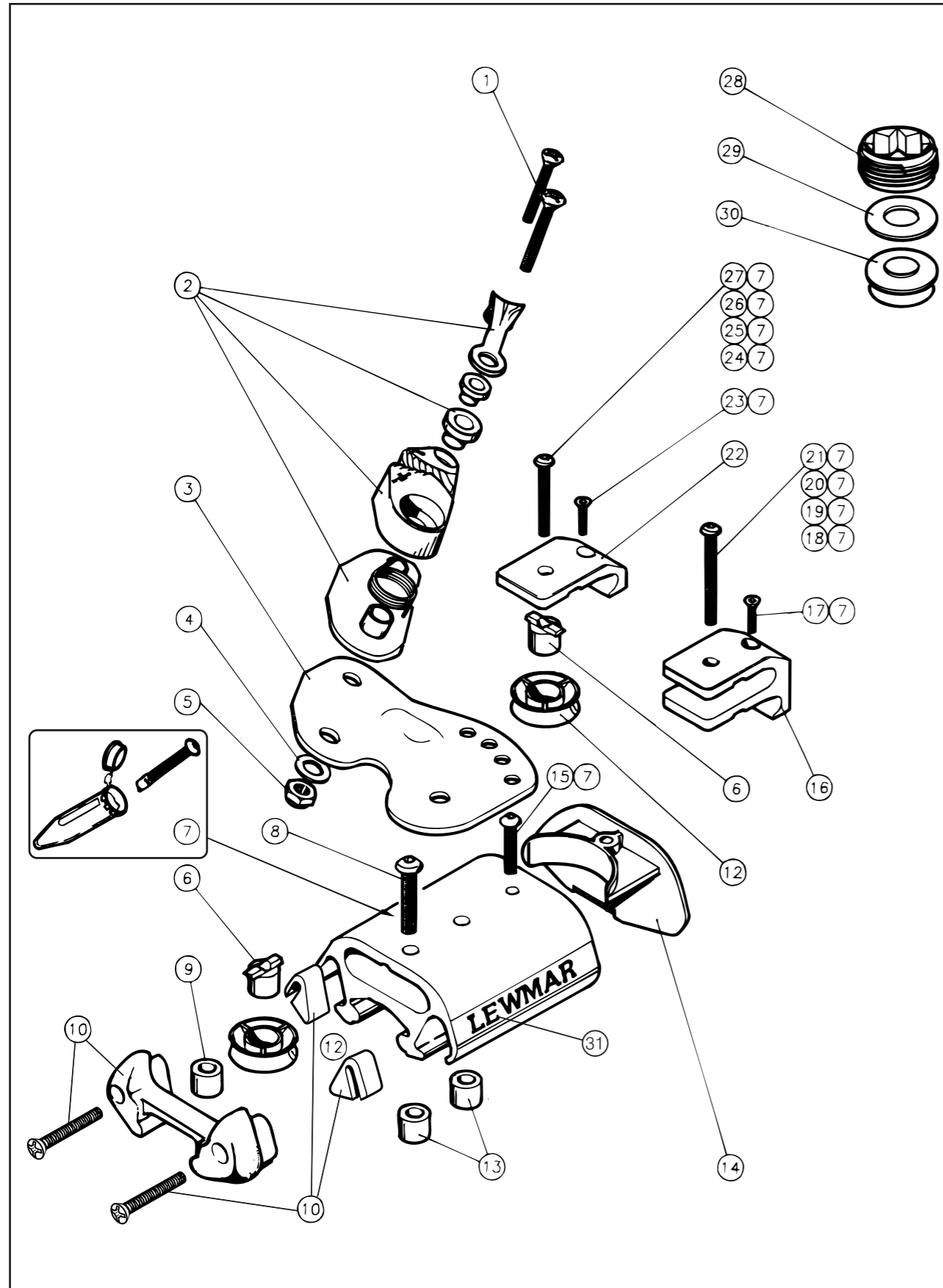
2. CARS

2.5 Size 2 Cars

Item	Description	Part Number	Assembly Number
1	Genoa Stirrup Assembly		28000802
2	Angled Rubber Upstand	25002321	
4	Genoa Sheave		29172054
5	Genoa Spindle		
6	Genoa Screw		29172027
7	High Spec. Thrust Washer	25000188	
8	High Spec. Genoa Sheave	25000186	
9	Torlon Bearing Assembly	15000018	
10	High Spec. Genoa Spindle	25000187	29172024
11	Mainsheet Link Cup - Bag of 10	29172043	
11a	Mainsheet Link for Size 1 Racing - Bag of 10	29905124	
12	Mainsheet Link Spring		29172026
13	Clevis Pin		
14	Mainsheet Link		
15	Split Ring		
16	Shackle	25000047	
17	Screw M5 x 20	B4201	
18	Screw M6 x 20	25000591	
19	Shackle Pin Standard Car	25000048	
20	Shackle Pin 257mm Car	25000204	
21	Shackle Pin 380mm Car	25000189	
22	Slide Rod (Pair)		29172026
23	Delrin Ball 5/16" x 84		29172022
24	Torlon Ball 5/16" x 84		29172021
25	Control Line Sheave	25000031	
26	End Cap Kit - Plastic (Including Screws)		29172045
26	End Cap Kit - Alloy (Including Screws)		29172044
28	Use Loctite Nutloc 242E		
29	Sheave Bearing	25000037	
30	Plunger Sleeve		29172048
31	Plunger		
32	Plunger Spring		
33	Plunger Cam		
34	Spirol Pin		
35	Grease Vial	28000810	
36	Lewmar Label	25000022	

2. CARS

2.6 Size 2 End Stops



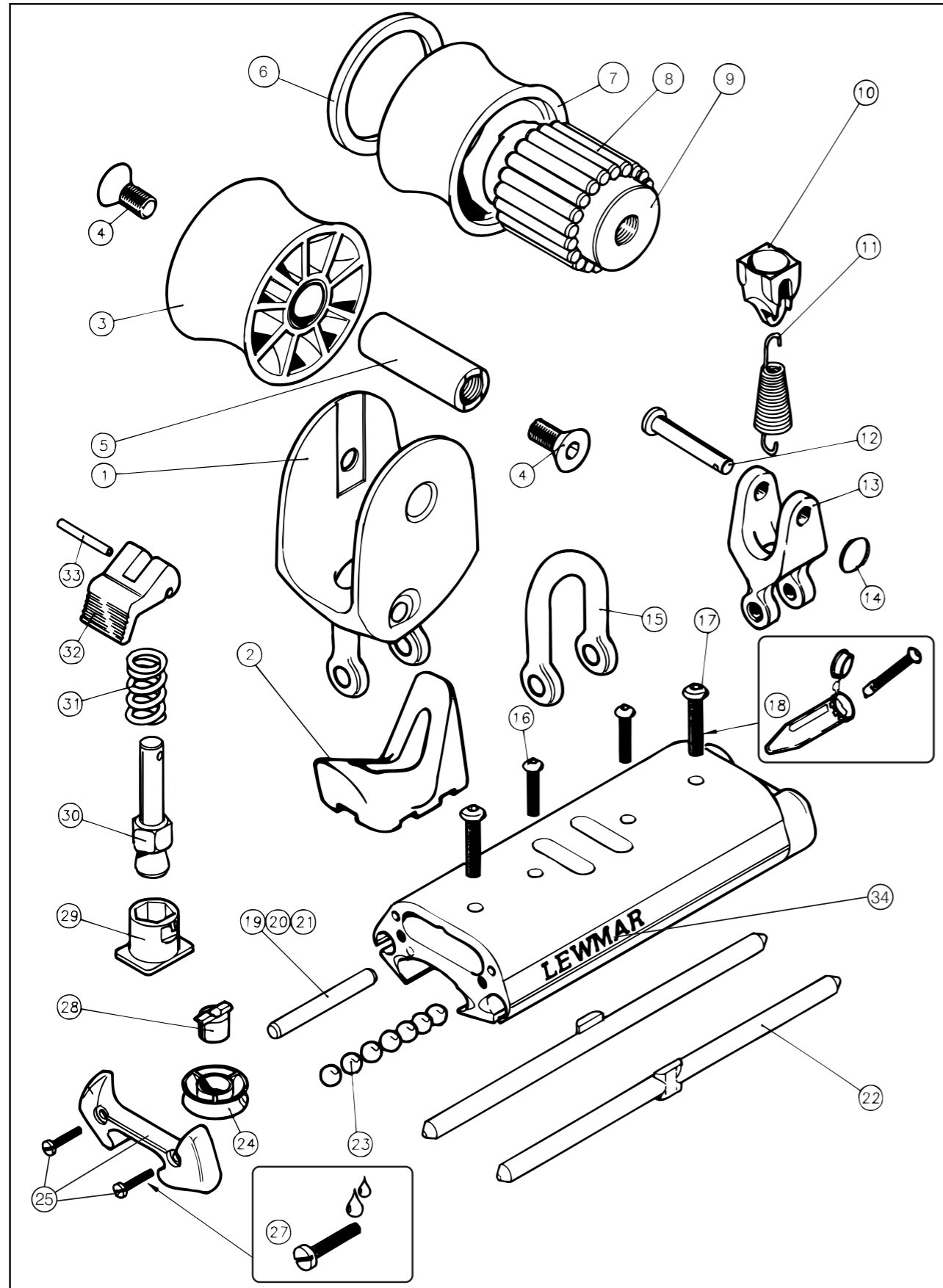
2. CARS

2.6 Size 2 End Stops

Item	Description	Part Number	Assembly Number
1	Pozi Screw	B0326-A4	
2	Cam Cleat Assembly		B2830/Assy.
3	Cam Plate (Pair)		29172020
4	Washer M5	B1210-A4	
5	Nyloc Nut M5	B1078	
6	Control Line Bearing	25000037	
7	Grease Vial	28000810	
8	Screw M6 x 35	25000592	
9	Sleeve (For Dead Eye)	B4304	
10	Rubber Buffer x 2 (Including Fixing Screws)		29172046
12	Control Line Sheave	25000031	
13	Track Insert (Flat & Beam Track)	B4301	
14	End Stop Cover	25000036	
15	Screw M5 x 20	B4201	
16	Double Sheave Strap	25000043	
17	Screw M5 x 35 - Double Cam Car Ends	B4132	
18	Screw M6 x 50 - Double Car	25000594	
19	Screw M6 x 60 - Double Ends	25000596	
20	Screw M6 x 53 - Double Cam Car	25000595	
21	Screw M6 x 70 - Double Cam Ends	25000597	
22	Single Sheave Strap	25000038	
23	Screw M5 x 20 - Single Cam Car Ends	B4131	
24	Screw M6 x 35 - Single Car	25000592	
25	Screw M6 x 50 - Single Ends	25000594	
26	Screw M6 x 38 - Single Cam Car Ends	25000593	
27	Screw M6 x 50 - Single Cam Ends	25000594	
28	Friction Stop Adjuster		
29	Washer		29172028
30	Pressure Pad		
31	Lewmar Label	25000022	

2. CARS

2.7 Size 3 Cars



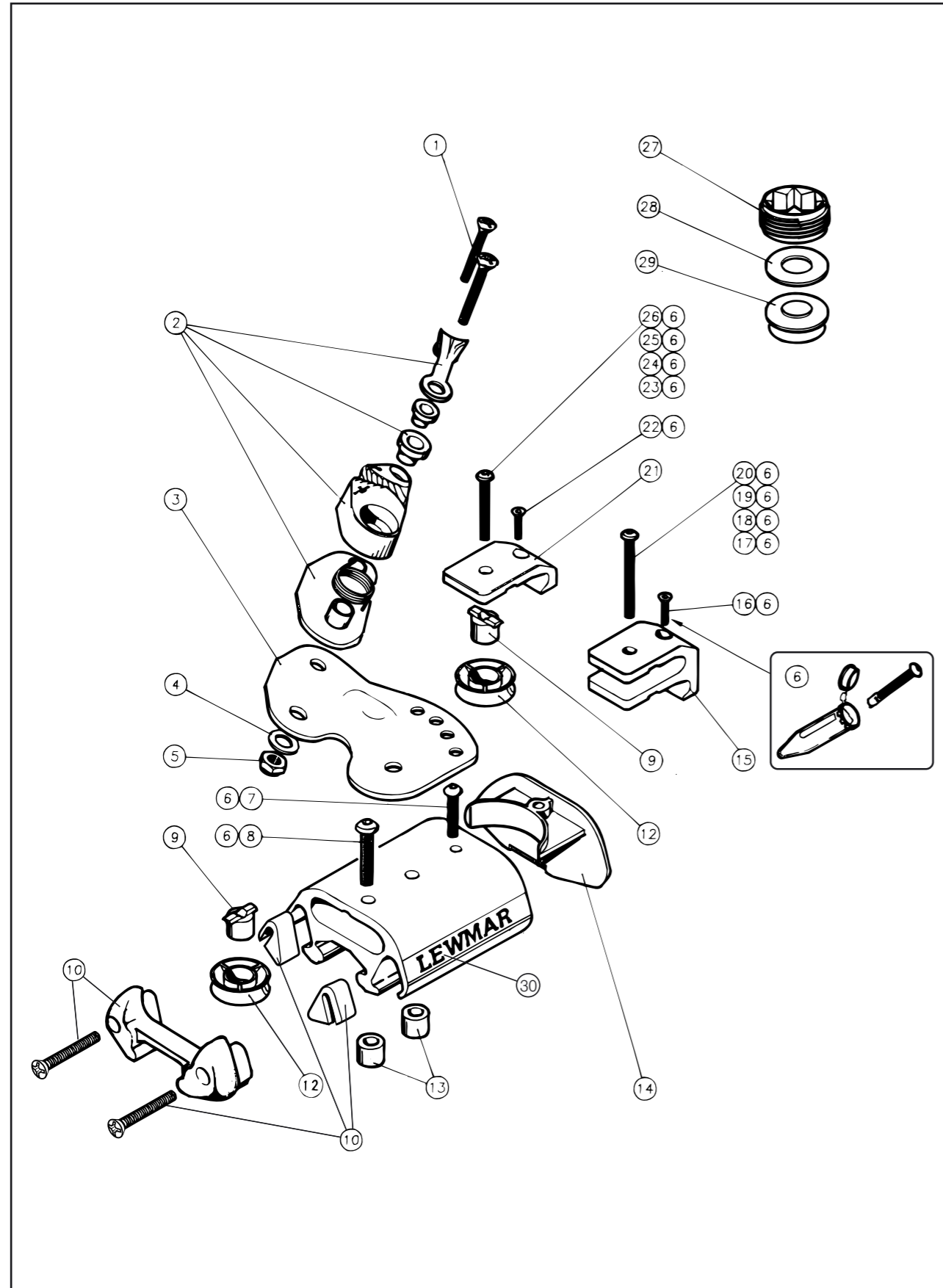
2. CARS

2.7 Size 3 Cars

Item	Description	Part Number	Assembly Number
1	Genoa Stirrup Assembly		28000803
2	Angled Rubber Upstand	25002321	
3	Genoa Sheave		
4	Genoa Bolt		29173054
5	Genoa Spindle		
6	High Spec. Thrust Washer	25000198	
7	High Spec. Genoa Sheave	25000195	
8	Torlon Roller x 18	25000197	29173027
9	High Spec. Genoa Spindle	25000325	
10	Mainsheet Link Cup - Bag of 10	29173043	
11	Mainsheet Link Spring		
12	Clevis Pin		
13	Mainsheet Link		29173024
14	Split Ring		
15	Shackle	25000047	
16	Screw M6 x 23	B4204	
17	Screw M8 x 23	25000584	
18	Grease Vial	28000810	
19	Shackle Pin Standard Car	25000048	
20	Shackle Pin 305mm Car	25000212	
21	Shackle Pin 403mm Car	25000199	
22	Slide Rod (Pair)		29173026
23	Torlon Ball 3/8" x 84		29173021
24	Control Line Sheave	25000104	
25	End Cap Kit - Delrin (Including Screws)		29173047
25	End Cap Kit - Alloy (Including Screws)		29173044
27	Use Loctite Nutloc 242E		
28	Sheave Bearing	25000103	
29	Plunger Slee-ve		
30	Plunger		
31	Plunger Spring		29173048
32	Plunger Cam		
33	Spirol Pin		
34	Lewmar Label	25000025	

2. CARS

2.8 Size 3 End Stops



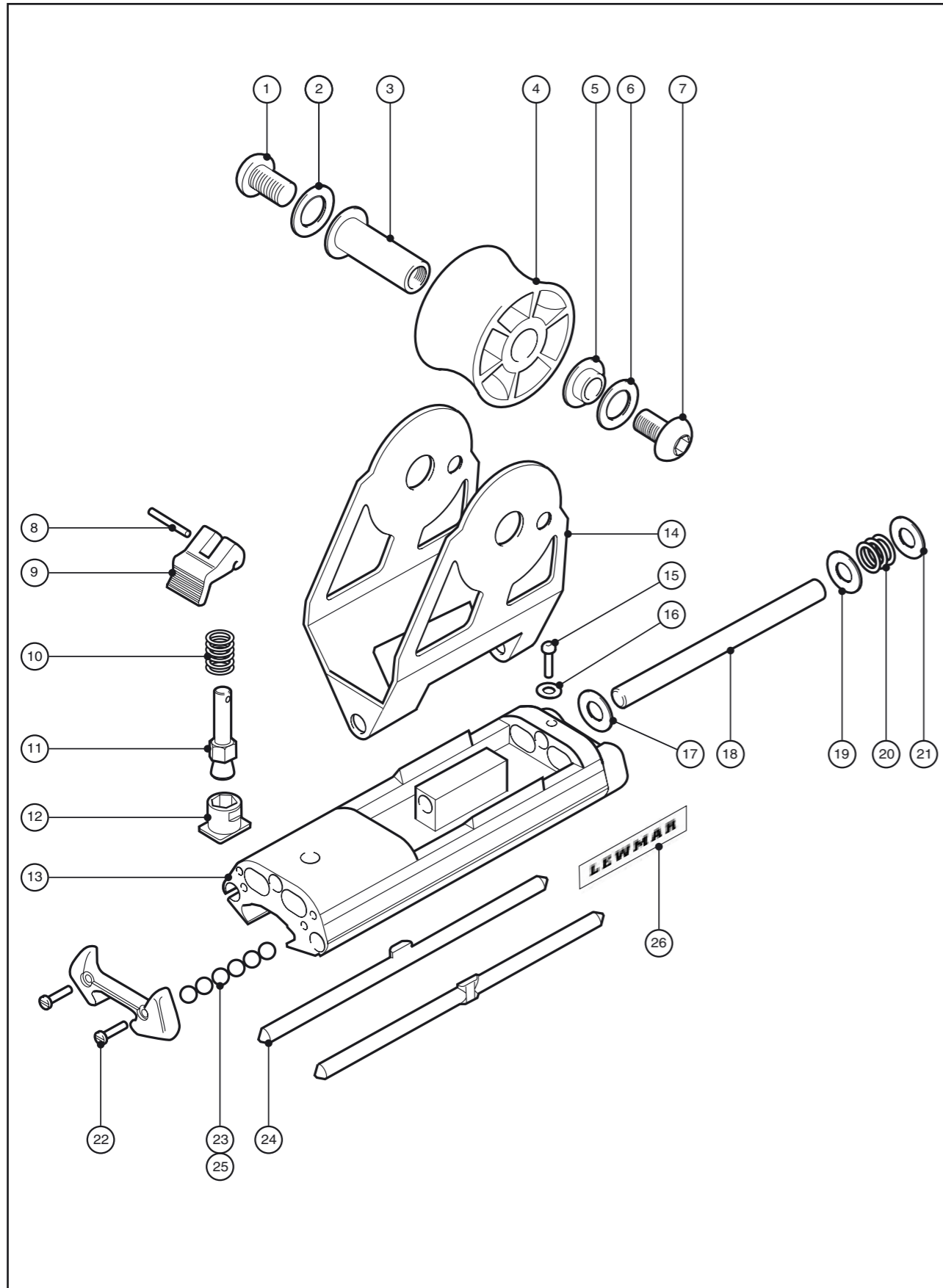
2. CARS

2.8 Size 3 End Stops

Item	Description	Part Number	Assembly Number
1	Pozi Screw	B0337	
2	Cam Cleat Assembly		B2827/Assy.
3	Cam Plate (Pair)		29173020
4	Washer M5	B1210-A4	
5	Nyloc Nut M5	B1078	
6	Grease Vial	28000810	
7	Screw M6 x 25	B4205	
8	Screw M8 x 40	25000585	
9	Control Line Bearing (& Dead Eye)	25000103	
10	Rubber Buffer x 2 (Including Fixing Screws)		29173046
12	Control Line Sheave	25000104	
13	Track Insert (Flat & Beam Track)	25000120	
14	End Stop Cover	25000111	
15	Double Sheave Strap	25000107	
16	Screw M6 x 40 - Double Cam Car Ends	B4133	
17	Screw M8 x 58 - Double Car	25000588	
18	Screw M8 x 70 - Double Ends	25000590	
19	Screw M8 x 60 - Double Cam Car	25000589	
20	Screw M8 x 70 - Double Cam Ends	25000590	
21	Single Sheave Strap	25000106	
22	Screw M6 x 25 - Single Cam Car Ends	B4125	
23	Screw M8 x 40 - Single Car	25000585	
24	Screw M8 x 55 - Single Ends	25000587	
25	Screw M8 x 43 - Single Cam Car	25000586	
26	Screw M8 x 60 - Single Cam Ends	25000589	
27	Friction Stop Adjuster		
28	Washer		29173028
29	Pressure Pad		
30	Lewmar Label	25000025	

3. GENOA CARS

3.1 Size 1 Genoa Cars



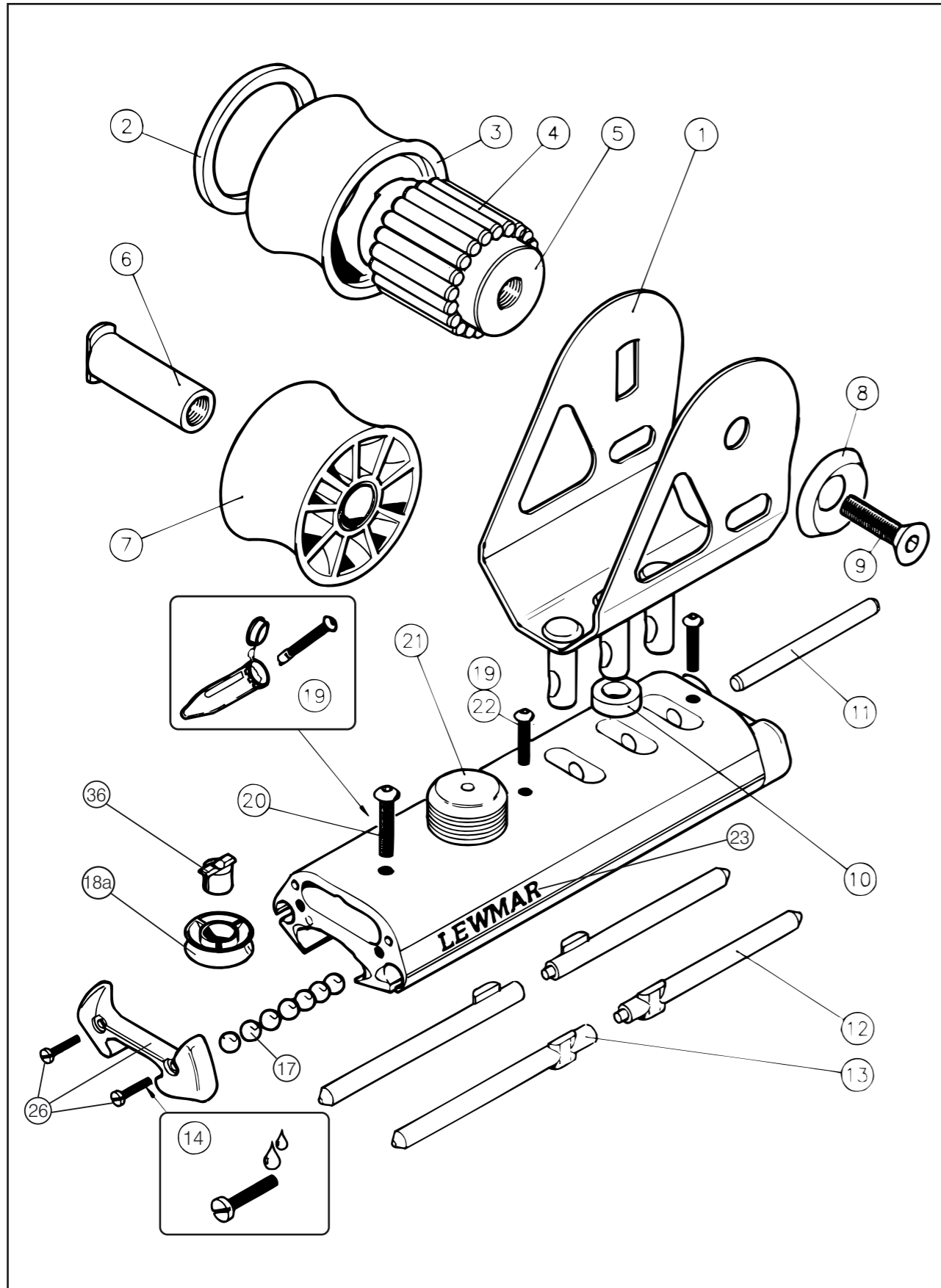
3. GENOA CARS

3.1 Size 1 Genoa Cars

Item	Description	Part Number	Assembly Number
1	M8 x 12 Button Head Screw	B4234-A4	
2	M8 Washer	B1207-A4	
3	Mk 2 Genoa Spindle - S22	25002166	
4	S21 Genoa Sheave Mk 2	25002090	
5	Genoa Spacer	25002173	
6	M8 Washer	B1207-A4	
7	M8 x 12 Button Head Screw	B4234-A4	
8	3 x 20 MD Spirol Pin		29171048
9	Cam Arm Machining		
10	Spring		
11	Plunger		
12	Plunger Sleeve		
13	S21 Car Body ST STL Genoa	25001453	
14	S21 OR Stirrup	25001366	
15	M4 x 16 Button Head Screw	B4200	
16	M4 Nylatron Washer	B4408	
17	M8 Form Washer	B1207-A4	
18	M8 Nylatron	B4411	
19	M8 Form Washer	B1207-A4	
20	Stainless Steel Spring	B5074	
21	M8 Form Washer	B1207-A4	
22	M4 x 16 Slot Cheese Screw	B0352	
23	Delrin Ball 1/4" x 84		29171022
24	S21 Slide Rod (Pair)		29171026
25	Torlon Ball 1/4" x 84		29171021
26	Traveller Label S21-2		25000022

3. GENOA CARS

3.2 Genoa Cars with Stainless Steel Stirrup



3. GENOA CARS

3.2 Genoa Cars with Stainless Steel Stirrup

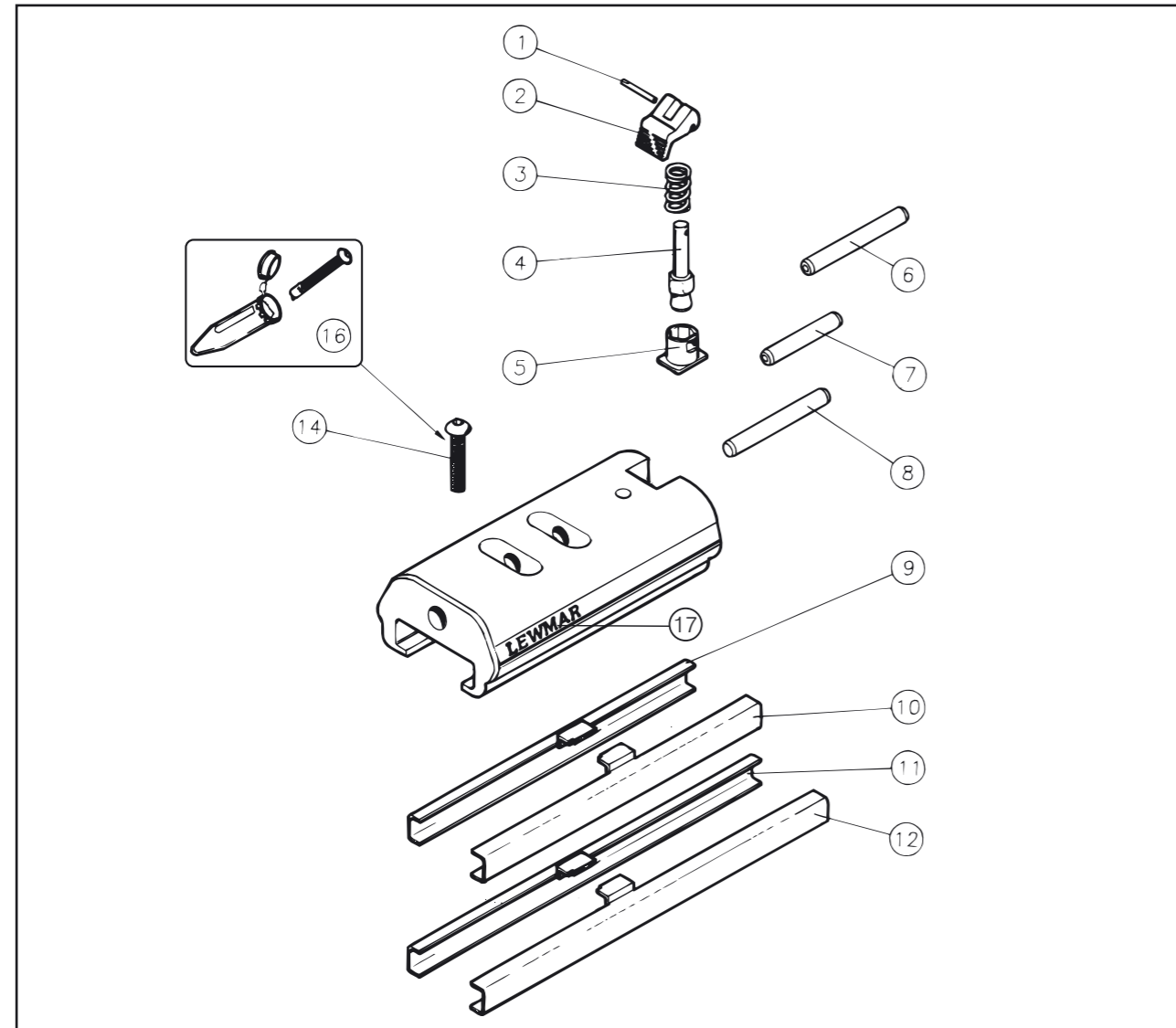
Item	Description	Part Number	Assembly Number
1	Stainless Steel Stirrup		28002231
2	High Spec. Thrust Washer	25000198	29173027
3	High Spec. Genoa Sheave	25000195	
4	Torlon Rollers x 18	25000197	
5	High Spec. Genoa Spindle	25000325	
6	Genoa Spindle	25000329	
7	Genoa Sheave	25000105	
8	Cone Washer	25000350	
9	Genoa Bolt	25000264	
10	Rubber Collar	15230310	
11	Shackle Pin	25000347	
12	Slide Rod (Pair) (Size 2 Cars)	29172026	
12	Male Slide Rod (H.L. Cars Only) (Size 3 Cars)	25000425	
13	Female Slide Rod (H.L. Cars Only) (Size 3 Cars)	25000426	
14	Use Loctite Nutloc 242E		
15	End Cap Kit - Plastic (Including Screws) (Size 2 Cars)		29172045
15	End Cap Kit - Alloy (Including Screws) (Size 2 Cars)		29172044
15	End Cap Kit - Delrin (Including Screws) (Size 3 Cars)		29173047
15	End Cap Kit - Alloy (Including Screws) (Size 3 Cars)		29173044
17	Torlon Ball 5/16" x 84 (Size 2 Cars)	29172021	
17	Torlon Ball 3/8" x 84 (Size 3 Cars)	29173021	
18	Sheave Bearing (For Dead Eye)	25000103	
18a	Control Line Sheave (Size 2 Cars)	25000031	
18a	Control Line Sheave (Size 3 Cars)	25000104	
19	Grease Vial	28000810	
20	Screw M6 x 20 (Size 2 Cars)	25000591	
20	Screw M8 x 23 (Size 3 Cars)	25000584	
21	Plunger Assembly		29173050
22	Screw M5 x 20 (Size 2 Cars)	B4201	
22	Screw M6 x 23 (Size 3 Cars)	B4204	
23	Lewmar Label	25000025	

4. T-TRACK CARS

4.1 Size 1, 2 & 3 T-Track Cars

Item	Description	Part Number	Assembly Number
1	3 x 24mm Spirol Pin	B1526	29172049
2	Plunger Cam		
3	Spring		
4	Plunger		
5	Plunger Sleeve		
6	Size 3 Pin	B4601	
7	Size 2 Pin	B1579	
8	Size 1 Pin	25000008	
9	Insert L/H Size 1 & 2	15200187	
10	Insert R/H Size 1 & 2	15200188	
11	Insert L/H Size 3	15200177	
12	Insert R/H Size 3	15200178	
14	Screw M5 (Size 1 Only)	B4201	
16	Grease Vial	28000810	
	Lewmar Label	25000022	

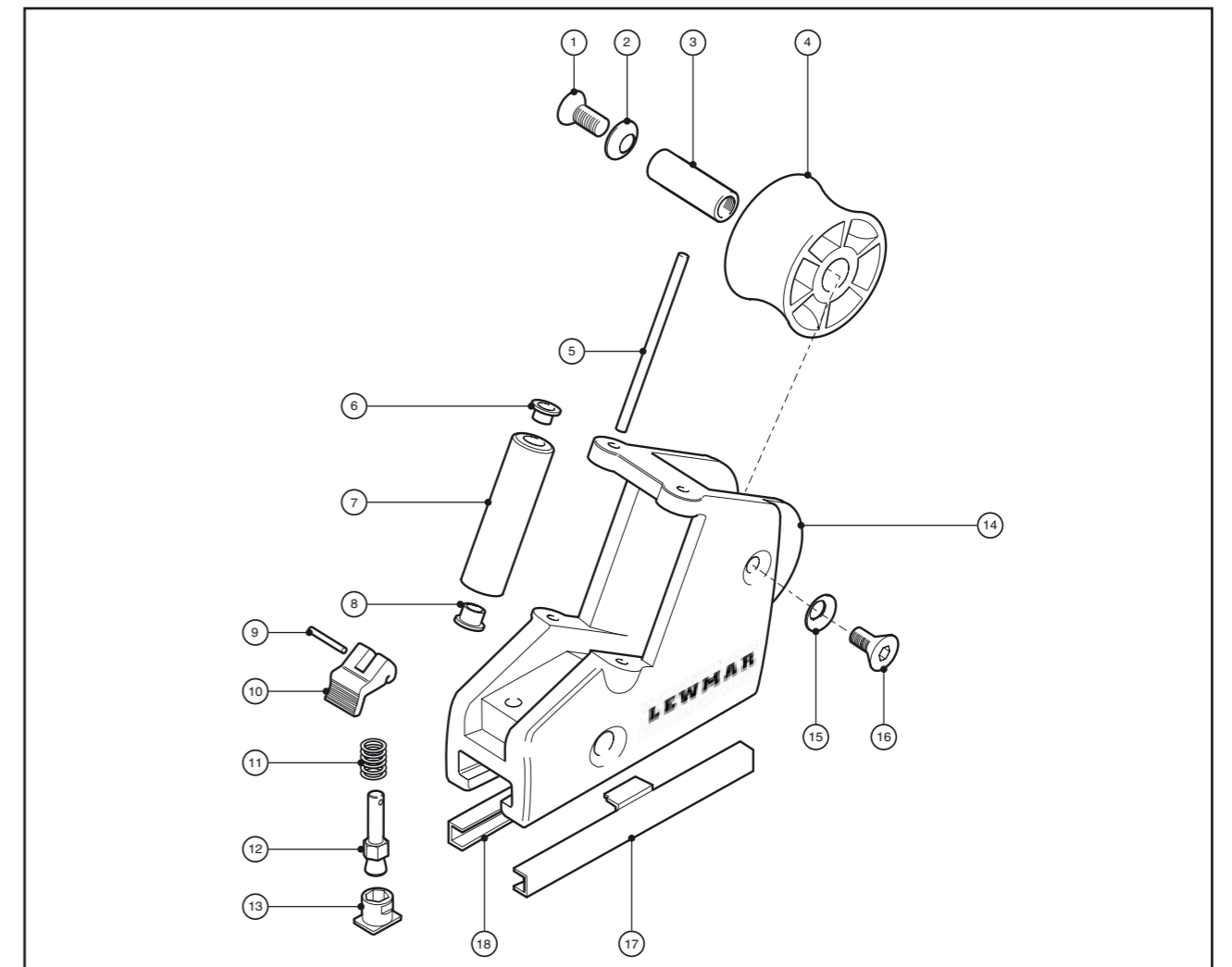
NOTE: From Jan 95, rubber buffers were not fitted to T-Track Cars. Car body ends machined with rounded end.



5. TRI-ROLLER CARS

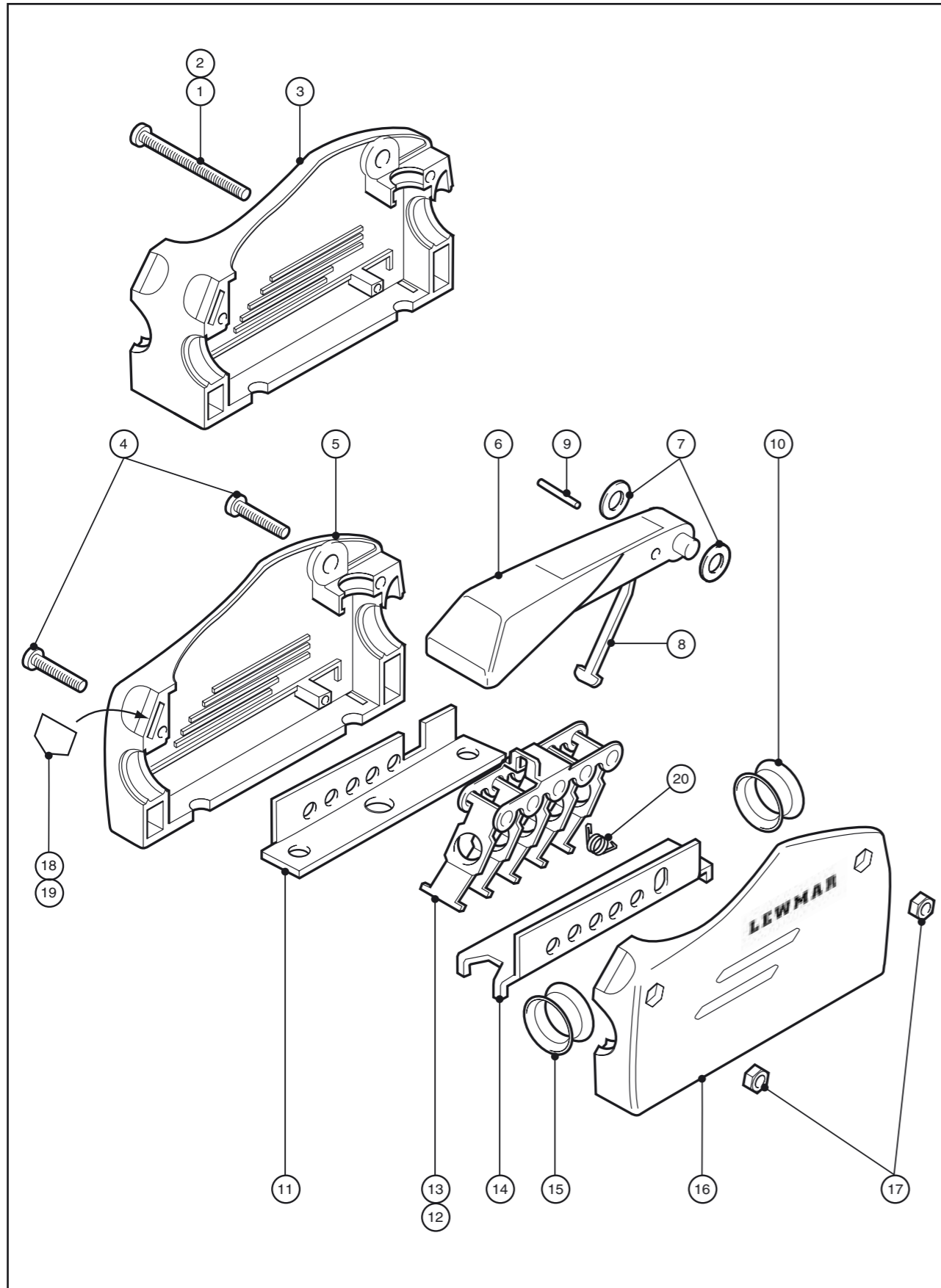
5.1 Size 2 Tri-Roller Cars

Item	Description	Part Number	Assembly Number
1	M8 x 16 SKT CSK Set Screw – A4	B0821-A4	
2	Nylon 66 Washer 17 x 8.4 x 0.25	B4419	
3	Sz 2 Genoa Spindle Mk 2	25002166	
4	Sz 2 Genoa Sheave Mk 2	25002090	
5	Sz 2 Tri-Roller Pin	25002623	
6	Heyco Shouldered Bush	B5937	
7	Sz 2 Side Roller Anodised	28002624	
8	Heyco Shouldered Bush	B5937	
9	3 x 24 Spirol Pin	B1526	
10	Cam Arm Machining	25000216	
11	Spring	15200175	
12	Plunger	25002146	
13	Plunger Sleeve	25000220	
14	Sz 2 Tri-Roller Genoa Car M/C	25002623	
15	Nylon 66 Washer 17 x 8.4 x 0.25	B4419	
16	M8 x 16 SKT CSK Set Screw – A4	B0821-A4	
17	Sz 2 Genoa Car R/H Insert	15200188	
18	Sz 2 Genoa Car L/H Insert	15200187	



6. ROPE CLUTCHES

6.1 D1 Rope Clutch



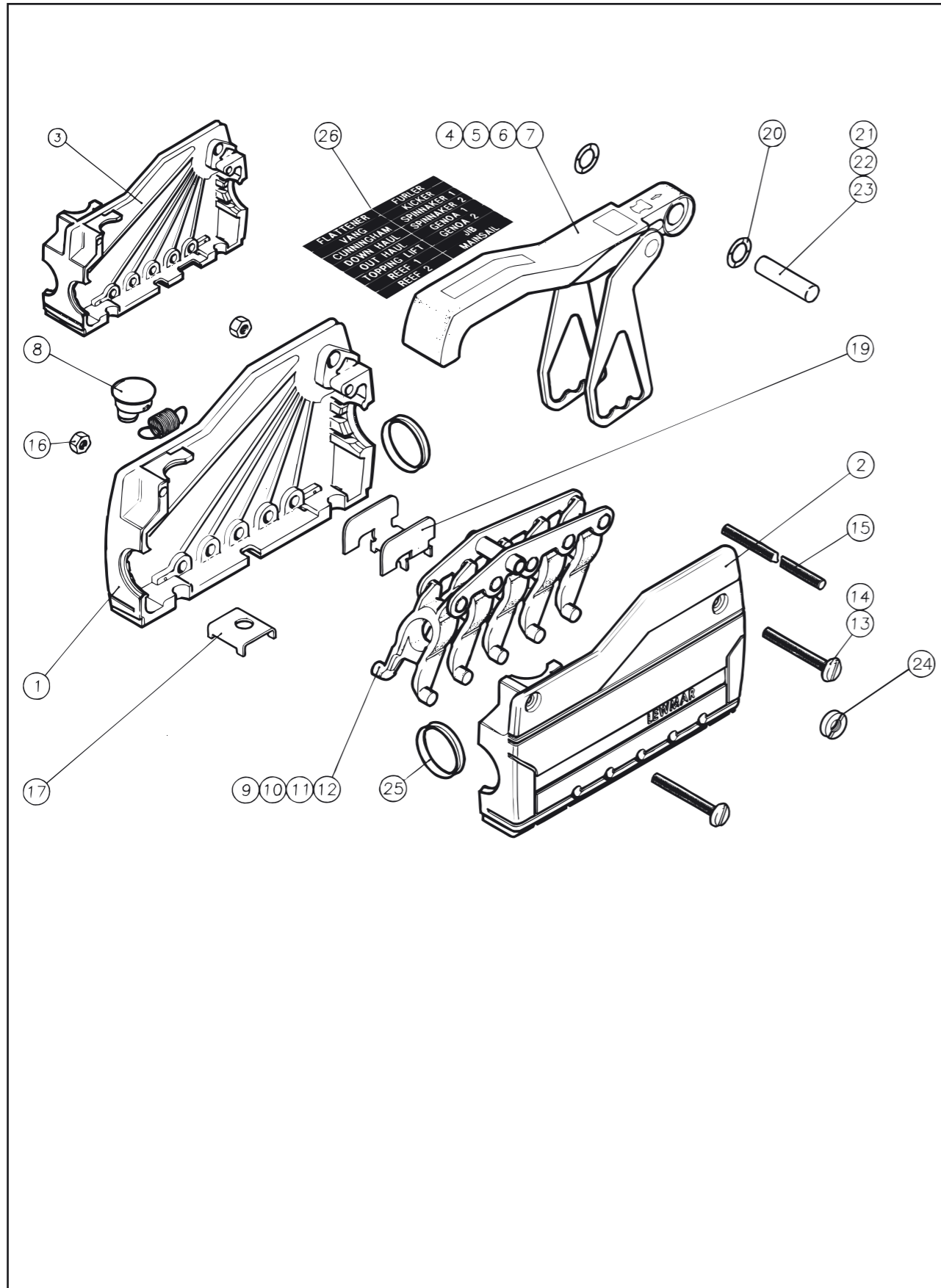
6. ROPE CLUTCHES

6.1 D1 Rope Clutch

Item	Description	Part Number	Assembly Number
1	M4 x 50 Pozi Screw (Double Clutch)	B4668-A4	
2	M4 x 76 Pozi Pan A4 20 Min Thread (Triple Clutch)	B4667-A4	
3	SBC Centre Cheek	25002295	
4	M4 x 25 Pozi Screw (Single Clutch)	B4666-A4	
5	SBC R/H Cheek	25002294	
6	SBC Handle		29100010
7	Crinkle Washer		
8	SBC Clutch Link		
9	Retaining Pin		
10	Ferrule	25000907	
11	SBC Upper Case Plate	25002307	
12	SBC 6 – 8 mm Domino Set		28002296
13	SBC 10 – 12 mm Domino Set		28002297
14	SBC Lower Base Plate	25002308	
15	Ferrule	25000907	
16	SBC L/H Cheek	25002293	
17	M4 Nut	B5011-A4	
18	SBC 6 – 8 mm Label	28002309	
19	SBC 10 – 12 mm Label	28002310	
20	SBC Clutch Spring	25002741	

6. ROPE CLUTCHES

6.2 D2 Rope Clutch



6. ROPE CLUTCHES

6.2 D2 Rope Clutch

Item	Description	Part Number	Assembly Number
1	Right Hand Cheek	25000165	
2	Left Hand Cheek	25000164	
3	Middle Cheek	25000167	
4	Handle Assembly 8 – 10		28000185
5	Handle Assembly 10 – 12		
6	Handle Assembly 12 – 14		
7	Handle Assembly 14 – 16		
8	Dome Plug & Spring		29100001
9	Domino Assembly 8 – 10		28000177
10	Domino Assembly 10 – 12		28000184
11	Domino Assembly 12 – 14		28000179
12	Domino Assembly 14 – 16		28000178
13	Cheek Screw Single	B4660	
14	Cheek Screw Double	B4661	
15	Cheek Stud Triple	25000176	
16	M5 Nut	B5007-A4	
17	Spreader Plate	25000154	
19	Reinforcing Plate	25000190	
20	Crinkle Washer	B4402	
21	Handle Pin - Single	25000173	
22	Handle Pin - Double	25000174	
23	Handle Pin - Triple	25000175	
24	Slotted Nut	28000182	
25	Stainless Steel Ferrule	25000156	
26	Label Function Sheet	25002323	

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