



HOWARD E SERIES IV ROTAVATOR

**Reservedelsliste
Spare parts list
Ersatzteilliste
Onderdelenlijst
Liste de pièce de rechange
Lista de Piezas
Parti di ricambio**

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It is important that when ordering spare parts, the user of a machine should always give the serial number of the particular machine for which the spare part is required, the part number (not the illustration number) and description. We cannot guarantee to supply correct parts unless these numbers are quoted.

NOTES FOR DEALER

The Bulletin columns provide space to record the reference number of any Bulletin issued concerning that part.

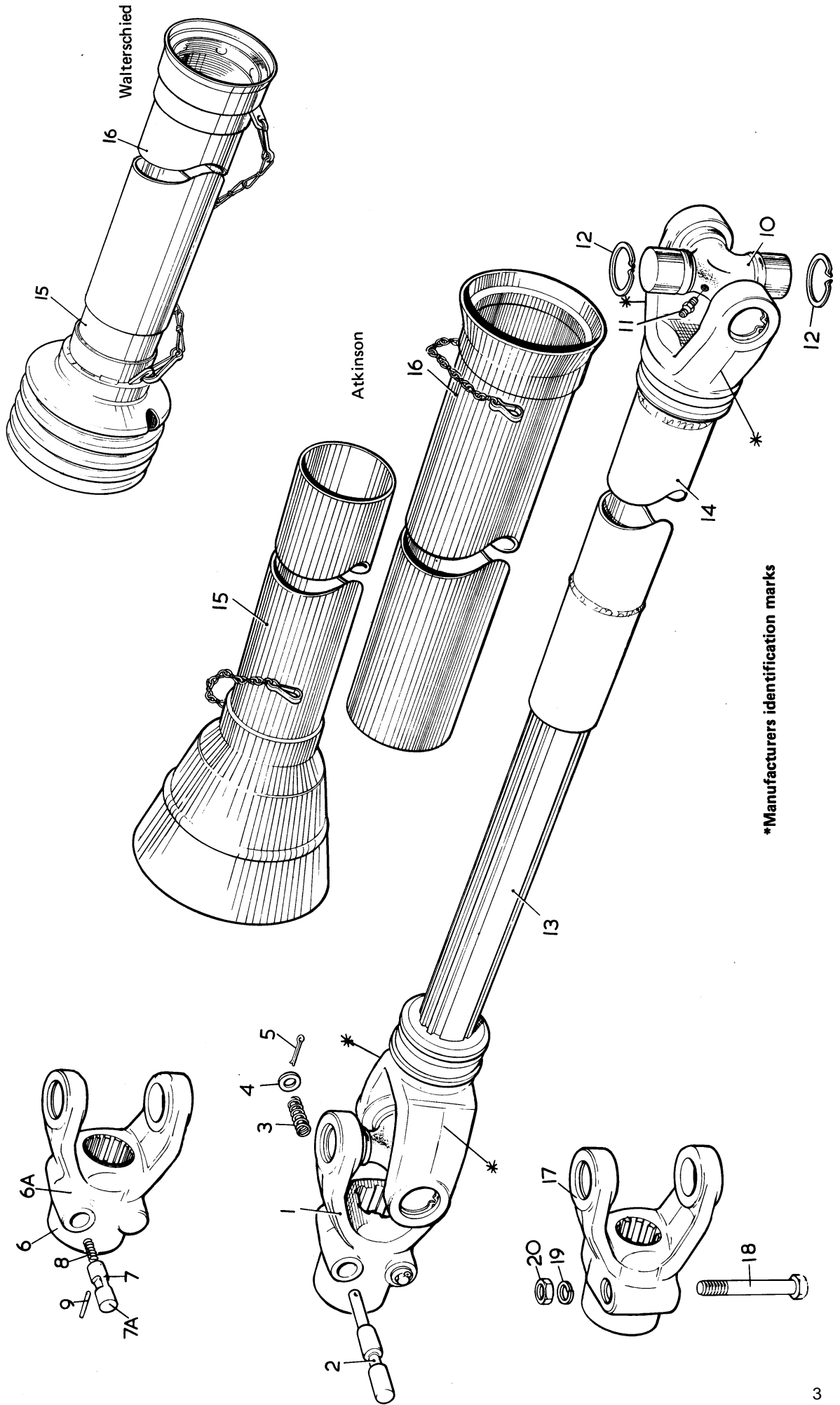
The Bin number column is for you to record the location of that item in the stores.

When writing in the Bin locations, complete the numerical index first and then transfer the information to the other pages.

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Howard E Series - Parts List

UNIVERSAL JOINT ASSEMBLY - HARDY SPICER



UNIVERSAL JOINT ASSEMBLIES – HARDY SPICER



Part Number	Superseded by	Makers Ref.	Tractor Yoke	Operating Length	Type of Guard	Illustration Numbers
69124	700320	141 - TO - 0017	1 3/8" x 6 spline	20" - 29" (50 - 74 cm)	Rotating	1, 2, 3, 4, 5, 10, 11, 12, 13, 14, 15, 16
69125	700321	141 - TO - 0019	1 1/2" x 21 spline	20" - 29" (50 - 74 cm)	Rotating	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16
69607		141 - SO - 0064	1 3/8" x 6 spline	20" - 29" (50 - 74 cm)	Non-rotating	6a, 7a, 8, 9, 10, 11, 12, 13, 14, 15a, 16a,
69608	69607		1 3/8" x 6 spline	20" - 29" (50 - 74 cm)	Rotating	6a, 7a, 8, 9, 10, 11, 12, 13, 14, 15, 16
700320		141 - SO - 0017	1 1/2" x 6 spline	20" - 29" (50 - 74 cm)	Non-rotating	1, 2, 3, 4, 5, 10, 11, 12, 13, 14, 15a, 16a
700321		141 - SO - 0019	1 3/8" x 21 spline	20" - 29" (50 - 74 cm)	Non-rotating	6, 7, 8, 9, 10, 11, 12, 13, 14, 15a, 16a,
700322	700323	141 - TO - 0046	1 1/2" x 6 spline	24" - 36" (61 - 91 cm)	Rotating	1, 2, 3, 4, 5, 10, 11, 12, 13a, 14a, 15b, 16b.
700323		141 - SO - 0046	1 3/8" x 6 spline	24" - 36" (61 - 91 cm)	Non-rotating	1, 2, 3, 4, 5, 10, 11, 12, 13a, 14, 15c, 16c

Illus. Part Number	Description	Makers Ref.	Tractor Yoke	Operating Length	Type of Guard	Illustration Numbers	No. off	Bin No.
1	Yoke assembly ... K3-4-GB-3485	...	1 3/8" x 6 spline	20" - 29" (50 - 74 cm)	Rotating	1, 2, 3, 4, 5, 10, 11, 12, 13, 14, 15, 16	1	
	includes:-							
	Yoke Pin Assembly ...						1	
	Comprising:-							
2	Pin ... 94-GB-2747	...					2	
3	Spring ... 94-GB-2839	...					2	
4	Washer ... 5-75-GB-59	...					2	
5	Cotter ... 8-72-GB-69	...					2	
6	Yoke assembly ... K3-4-W3678	...					1	
	includes:-							
	Yoke Pin Assembly ...						1	
	Comprising:-							
7	Pin ... 00-08-01	...	1 3/8" x 21 spline	20" - 29" (50 - 74 cm)	Rotating	1, 2, 3, 4, 5, 10, 11, 12, 13, 14, 15, 16	2	
8	Spring ... 00-12-00	...					2	
9	Tension pin ... 00-33-04	...					2	
6a	Yoke assembly ... K3-4-GB-4328	...					1	
	includes:-							
7a	Pin ... 00-08-02	...	1 1/2" x 6 spline	20" - 29" (50 - 74 cm)	Non-rotating	1, 2, 3, 4, 5, 10, 11, 12, 13, 14, 15a, 16a,	2	
8	Spring ... 00-12-00	...					2	
9	Tension pin ... 00-33-04	...					2	
10	Spider assembly ... K5-GB-179	...					2	
	includes:-							
	Lubricator ... 94-GB-2204	...					2	
11	Circlip ... K3-7-GB-19	...					8	
12								

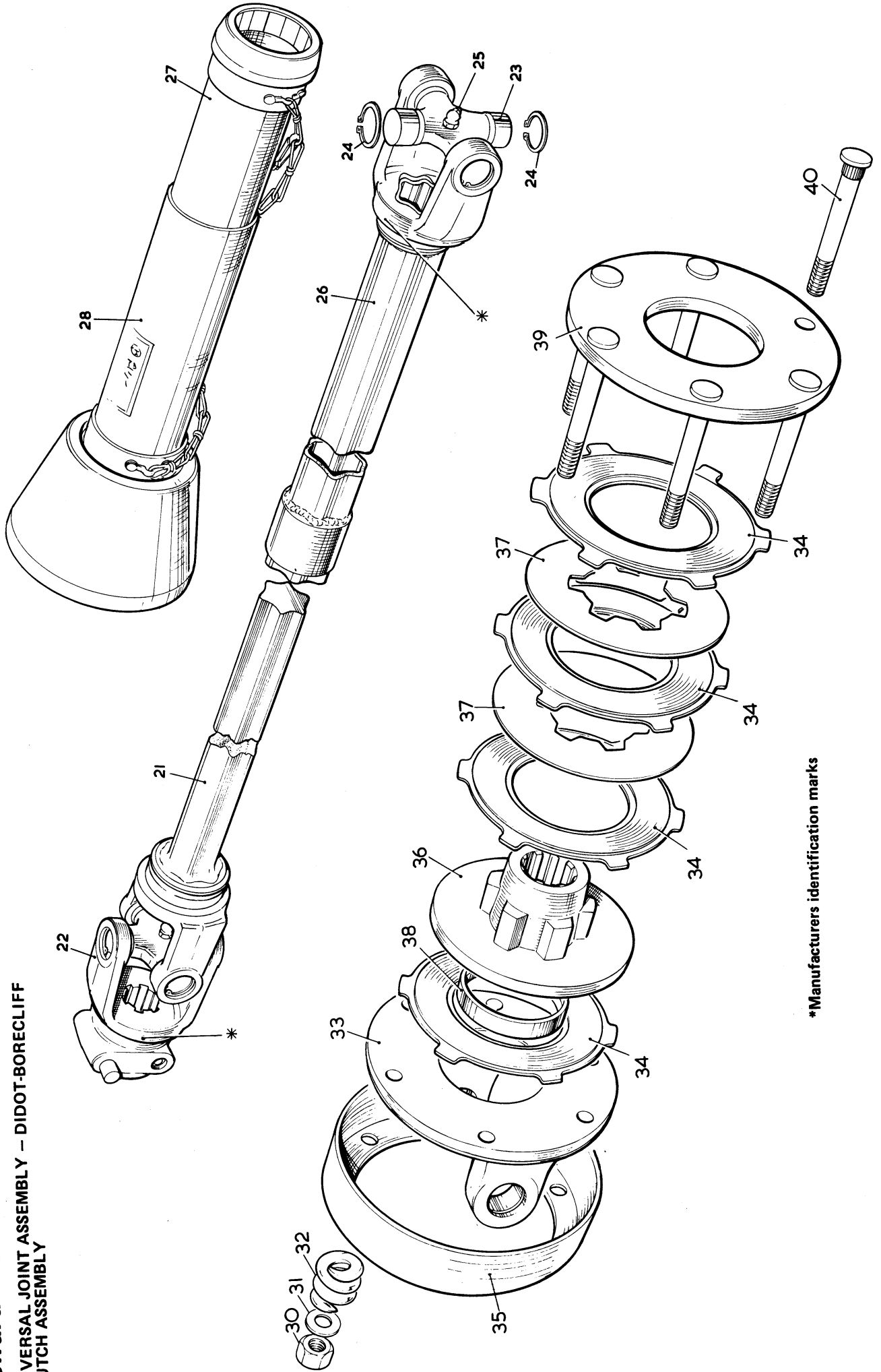
o Atkinson Guard-Red-Rotating
 * Atkinson Guard-Red-Non-Rotating
 + Walterschied Guard-Yellow-Non-Rotating] Must only be fitted in sets

Note: When stocks of Atkinson Guards are exhausted a pair of Walterschied Guards will be supplied in lieu.

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Howard E Series - Parts List

UNIVERSAL JOINT ASSEMBLY - DIDOT-BORECLIFF
CLUTCH ASSEMBLY



*Manufacturers identification marks

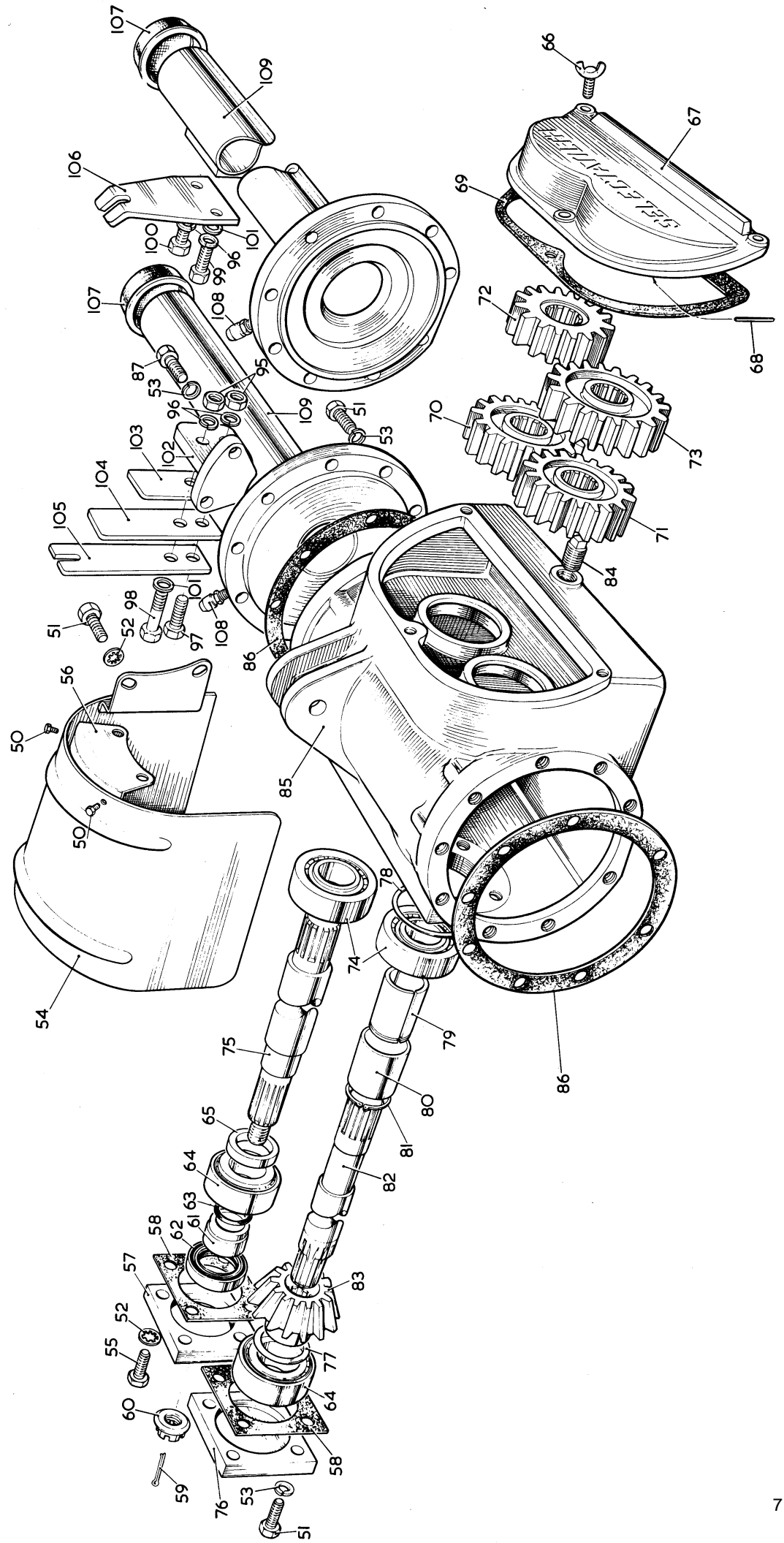
Illus. No.	Part Number	Description	No. off	Bin No.
UNIVERSAL JOINT ASSEMBLY DIDOT-BORECLIFF				
700325		Universal joint assembly Didot-Borecliff 20-30 inches between centres. 10520100/300.	1	
21	204048250	Inner half shaft assembly ... 105D201/450	1	
22	204047460	Yoke 105B01	1	
23	204046650	Unit pack 105A	2	
24	204046660	Circle 105H	8	
25	204046670	Lubricator 105J	2	
26	204048280	Outer half shaft 105E2	1	
27	204014620	Outer half shaft assembly ... 105E 200/390	1	
28	204014640	Guard assembly 105 FG/X	1	
29	204014630	Inner guard and chain 105 F/X	1	
	not allocated	Outer guard and chain 105G/330	1	
CLUTCH ASSEMBLY				
30	107108010	Nut 1/2" UNF] Alternative	6	
31	307512015	Nut M12 1.25 pitch] Alternative	6	
32	108081610	Flat washer 1/2" dia.] Alternative	6	
33	650349	Spring] Alternative	6	
34	650348	Clutch plate] Alternative	1	
35	650347	Friction disc] Alternative	4	
36	52726	Inner cover] Alternative	1	
37	67239	Clutch disc] Alternative	1	
38	650346	Wearing disc] Alternative	2	
39	650345	Sleeve] Alternative	1	
40	53761	Pressure plate - Imperial	1	
		includes:-		
40	35104	Stud 1/2" UNF] Alternatives	6	
39	330358	Pressure plate - Metric] Alternatives	1	
		includes:-		
40	330359	Stud M12 1.25 pitch] Alternatives	6	
41-49	not allocated			

Illus. Part Number Description No. off

Bin No. Bulletin

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Howard E Series - Parts List
GEARBOX AND R.H. SIDEPLATE - FIXED DRIVE

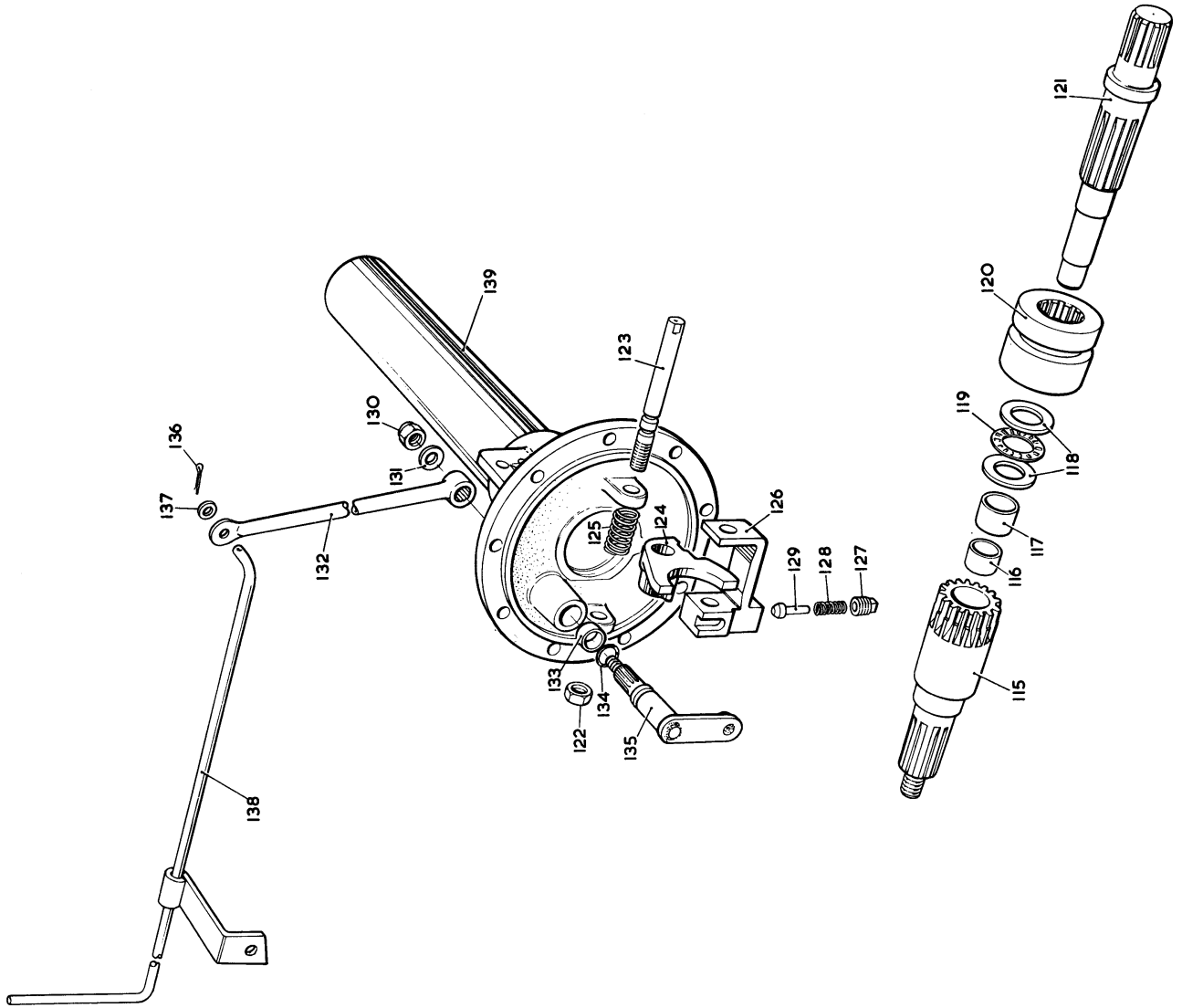


Illus. No.	Part Number	Description	No. off	Bulletin	Bin No.
GEARBOX ASSEMBLY					
50	101404040	Setscrew 1/4" UNC x 3/8" long Hex. head	2		
51	101408100	Setscrew 1/2" UNC x 1 1/2" long Hex. head	9		
52	108081430	Shakeproof washer 1/2" dia. Internal	8		
53	108081440	Spring washer 1/2" dia.	11		
54	65556	Cover for rotating UJ guard	1		
55	67998	Cover for non-rotating UJ guard	1		
56	67241	Special bolt	6		
57	65538	Cover bracket	1		
58	65552	End cover-extension shaft	1		
59	65553	Gasket .005" (.127mm)	as required		
60	65554	Gasket .010" (.254mm)	as required		
61	208010840	Gasket .020" (.508mm)	as required		
62	65540	Splitpin 3/8" dia. x 1 1/2" long	1		
63	65539	Special nut	1		
64	263021053	Spacer	1		
65	202023400	Oilseal - Pinoneer type 13P	1		
66	251937191	3" o.d. x 2 1/8" i.d. x 1/2" w. double lip	1		
67	67939	'O' ring ref. No. 223 1 3/8" o.d. x 1 3/8" i.d. x .139"	2		
68	64808	Bearing - Timken type TS - Cone 3779 Cup 3720	2		
69	58087	Abutment ring - fixed drive only	3		
70	208015190	Special bolt	1		
71	65545	Cover plate assembly	1		
72	65575	includes:-			
73	65576	Spiral pin heavy duty 3/16" dia. x 1 1/2" long	1		
74	65577	Cover plate gasket	1		
75	65578	540 rpm	1000 rpm		
76	65579	Pick-off gear 17 tooth	Standard (Orange)		
77	65580	Pick-off gear 18 tooth	Standard (Blue)		
78	65581	Pick-off gear 19 tooth	Optional (Red)		
79	65582	Pick-off gear 20 tooth	Optional (Grey)		
80	65583	Pick-off gear 21 tooth	Optional (White)		
81	65584	Pick-off gear 22 tooth	Optional (Black)		
82	65585	Pick-off gear 23 tooth	Optional (Black)		
83	65586	Pick-off gear 24 tooth	Optional (Black)		
84	65587	Pick-off gear 25 tooth	Optional (Black)		
85	65588	Pick-off gear 26 tooth	Optional (Black)		
86	65589	Pick-off gear 27 tooth	Optional (Black)		
87	65590	Pick-off gear 28 tooth	Optional (Black)		
88	65591	Pick-off gear 29 tooth	Optional (Black)		
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90	65593	Pick-off gear 31 tooth	Optional (Black)		
91	65594	Pick-off gear 32 tooth	Optional (Black)		
92	65595	Pick-off gear 33 tooth	Optional (Black)		
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97	65600	Pick-off gear 38 tooth	Optional (Black)		
98	65601	Pick-off gear 39 tooth	Optional (Black)		
99	65602	Pick-off gear 40 tooth	Optional (Black)		
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101	65604	Pick-off gear 42 tooth	Optional (Black)		
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113	65616	Pick-off gear 54 tooth	Optional (Black)		
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200	65703	Pick-off gear 141 tooth	Optional (Black)		
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244	65747	Pick-off gear 185 tooth	Optional (Black)		
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247	65750	Pick-off gear 188 tooth	Optional (Black)		
248	65751	Pick-off gear 189 tooth	Optional (Black)		
249	65752	Pick-off gear 190 tooth	Optional (Black)		
250	65753	Pick-off gear 191 tooth	Optional (Black)		
251	65754	Pick-off gear 192 tooth	Optional (Black)		
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253	65756	Pick-off gear 194 tooth	Optional (Black)		
254	65757	Pick-off gear 195 tooth	Optional (Black)		

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Howard E Series - Parts List

DOG CLUTCH

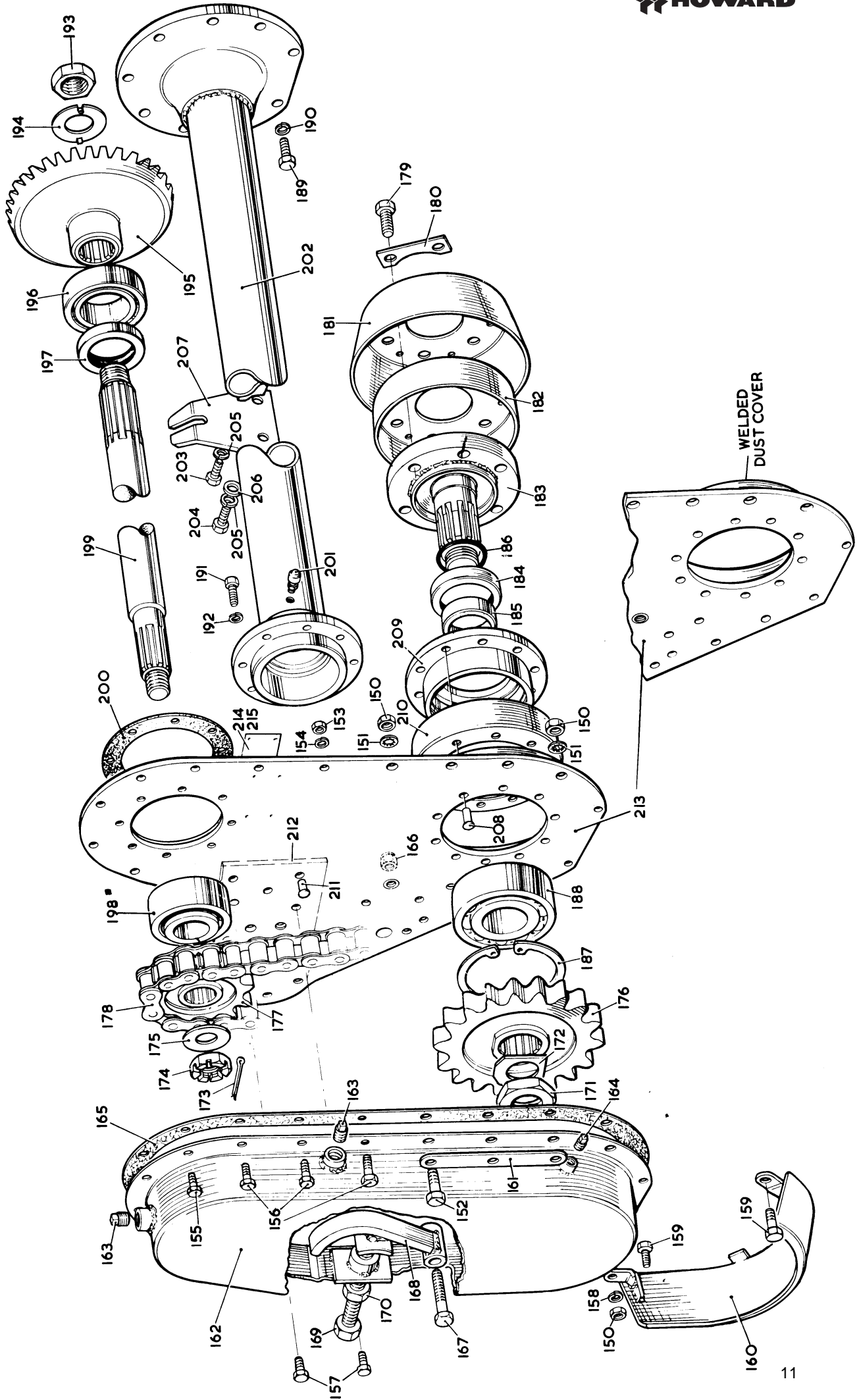


Illus. No.	Part Number	Description	No. off	Bin No.	Illus. No.	Part Number	Description	No. off	Bin No.
DOG CLUTCH 50", 60", 70" MODELS									
66288		†Extension shaft assembly comprising:-	1						
115	65541	Front bearing shaft	1						
116	251011103	Bush - Glacier 3208 1 3/8" o.d. x 1" i.d. x 1" long	1						
117	251214103	Bush Glacier 4008 1 1/2" o.d. x 1 1/4" i.d. x 1" long	1						
118	251219012	Torrington thrust race ref. TRD 2031	2						
119	251219011	Torrington thrust bearing ref. NTA 2031	1						
120	65542	Sliding dog	1						
121	65543	Rear extension shaft	1						
122	107210020	Locknut 5/8" UNC	1						
123	65597	Slide bar	1						
124	65509	Selector fork	1						
125	61042	Spring - dog clutch	1						
126	65596	Selector block	1						
127	61043	Adjuster	1						
128	61044	Spring - pawl	1						
129	61045	Pawl	1						
130	107107030	Nut 7/16" UNF Philidas self locking	1						
131	108071410	Flat washer 7/16" dia.	1						
132	65914	Lever	1						
133	61189	Collar	1						
134	202023160	'O' ring 3/4" o.d. x 9/16" i.d. x .103" - BS 1806 No. 113	1						
135	65592	Selector arm	1						
136	208010130	Splitpin 3/8" dia. x 3/4" long	1						
137	108061210	Flat washer 3/8" dia. Plain	1						
138	65917	Selector rod	1						
139	65582	R.H. sideplate - EMU 50", 60", 70", models	1						
	65588	R.H. sideplate - EMG 50", 60", 70", models	1						
140 - 149 not allocated									

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Howard E Series - Parts List

BACKPLATE - ROTOR DRIVE - JACKSHAFT



Illus. No.	Part Number	Description	No. off	Bulletin	Bin No.
		BACKPLATE - ROTOR DRIVE - JACKSHAFT ASSEMBLY			
150	107108150	Chaincase bolt set	1		
		comprising:-			
151	107108150	Nut 1/2" UNF self locking	5		
152	108081430	Shakeproof washer 1/2" dia. Internal	3		
153	107106150	Bolt 1/2" UNF x 1 1/4" long	4		
154	108061140	Nut 3/8" UNF self locking	15		
155	101306080	Spring washer 3/8" dia.	15		
156	101306080	Setscrew 3/8" UNF x 1" long. Hex. head	10		
157	101306100	Bolt 3/8" UNF x 1 1/2" long	3		
158	108081440	Setscrew 3/8" UNF x 1 1/4" long. Hex. head	2		
159	101308100	Spring washer 1/2" dia.	1		
160	68966	Setscrew 1/2" UNF x 1 1/4" long. Hex. head	2		
161	58200	Ground skid - bladed rotor	1		
162	61817	Ground skid - spike rotor	1		
163	203031200	Stiffener	1		
164	203031160	Chaincase	1		
165	61816	Plug 3/8" BSP. Square head	2		
166	107110140	Plug 1/8" BSP. Square head	1		
167	101110260	Gasket	1		
168	24853	Pivot bolt 5/8" UNF Philidas type QUFN thin turret	1		
169	24833	Pivot bolt 5/8" UNF x 3/4" long	1		
170	107612020	Chaincase	1		
171	56801	Adjusting screw	1		
172	65672	Locknut 3/4" BSW	1		
173	208010240	Special nut	1		
174	61079	Tab washer	1		
175	48486	Splitpin 3/8" dia. x 2" long	1		
176	65671	Special nut	1		
177	65584	Special washer	1		
178	54482	Rotor drive sprocket	1		
		Jackshaft sprocket 11 tooth	1		
		Chain assembly - Morse	1		
		comprising:-			
178	54471	Inner link	19		
		Outer link	18		
		Connecting link	1		
		Chain assembly - Renold 185977	1		
		comprising:-			
		Inner link	19		
		Outer link	18		
		Connecting link	1		
179	101410120	Setscrew 5/8" UNF x 1 1/2" long. Hex. head	6		
180	304052	Tab washer	3		
181	65693	Outer dust cover	1		
182	65692	Inner dust cover	1		
183	304047	Rotor drive shaft	1		
		comprising:-			
		From Machine Serial Number 630A 50097	1		
		comprising:-			
		Rivet 3/8" dia. x 1" long. Pan head	10		
		Rotor bearing housing - use with welded dust cover	1		
		Rotor bearing housing - use with riveted dust cover	1		
		Dust cover - welded	1		
		Dust cover - riveted	1		
		Rivet 3/8" dia. x 3/8" long. Pan head	4		
		Thickening pad	1		
		Backplate	1		
		Drive screw No. 2 x 3/16" long type U	4		
		Machine serial number plate	1		
		Oilseal 3 3/4" o.d. x 2 1/4" i.d. x 5/8" w. Superfect 795	1		
		Spacer	1		
		'O' ring 2 7/16" o.d. x 2 1/4" i.d. x .103"	1		
		Circlip 5" dia. Internal	1		
		Bearing 5" o.d. x 2 1/4" i.d. x 1 1/4" w. BRM 2 1/4"	1		
		Setscrew 1/2" UNC x 1 1/4" long. Hex. head	9		
		Spring washer 1/2" dia.	9		
		Setscrew 3/8" UNF x 1 1/4" long. Hex. head	8		
		Spring washer 3/8" dia.	8		
		Special nut	1		
		Tab washer	1		
		Crownwheel	1		
		Bearing - Timken type TS - Cone 29585 Cup 29520	1		
		Oilseal - Pioneer type 11P 3 1/2" o.d. x 2 1/2" i.d. x 1/2" w.	1		
		Bearing - Timken type TS - Cone 536 Cup 532	1		
		Jackshaft - EMU 50" model	1		
		Jackshaft - EMU 60" model	1		
		Jackshaft - EMU 70" model	1		
		Jackshaft - E 80" model	1		
		Jackshaft - E 90" model	1		
		Jackshaft - EMG 50", 60", 70" models	1		
		Gasket	1		
		Pressure relief valve 3/8" BSP - Tecalemit OA 6862	1		
		Jackshaft housing - EMU 50" model	1		
		Jackshaft housing - EMU 60" model	1		
		Jackshaft housing - EMU 70" model	1		
		Jackshaft housing - E 80" model	1		
		Jackshaft housing - E 90" model	1		
		Jackshaft housing - EMG 50", 60", 70", models	1		
		Setscrew 1/2" UNC x 3/4" long Hex. head	1		
		Setscrew 1/2" UNC x 1 1/4" long. Hex. head	1		
		Flat washer 1/2" dia.	2		
		Chain clip	1		
		Backplate assembly supersedes 65630	1		
		From Machine Serial Number 630A 50097	1		
		comprising:-			
		Rivet 3/8" dia. x 1" long. Pan head	10		
		Rotor bearing housing - use with welded dust cover	1		
		Rotor bearing housing - use with riveted dust cover	1		
		Dust cover - welded	1		
		Dust cover - riveted	1		
		Rivet 3/8" dia. x 3/8" long. Pan head	4		
		Thickening pad	1		
		Backplate	1		
		Drive screw No. 2 x 3/16" long type U	4		
		Machine serial number plate	1		
		216 - 219 not allocated			

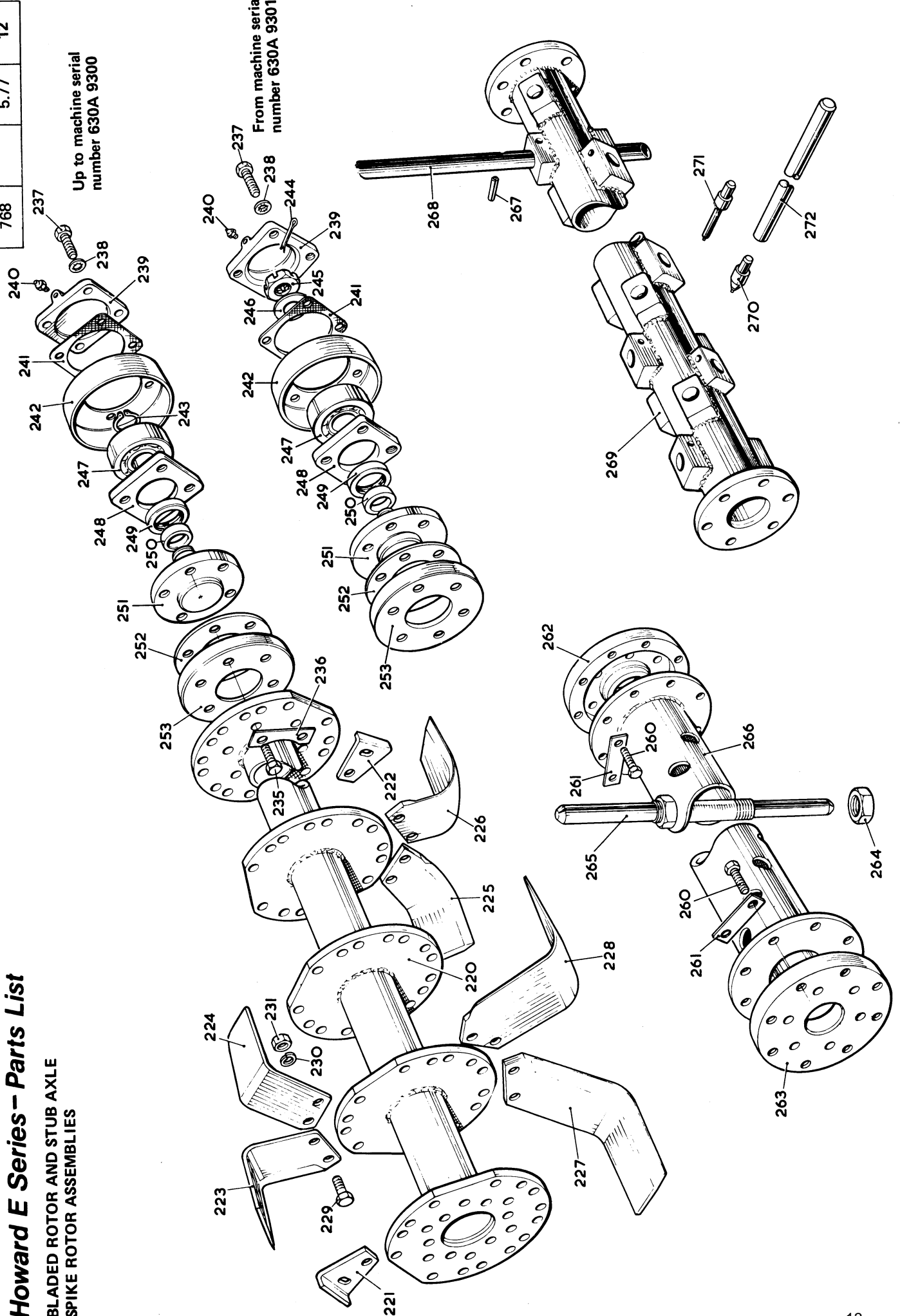
Howard E Series - Parts List

**BLADED ROTOR AND STUB AXLE
SPIKE ROTOR ASSEMBLIES**

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Up to machine serial number 630A 9300

From machine serial number 630A 9301

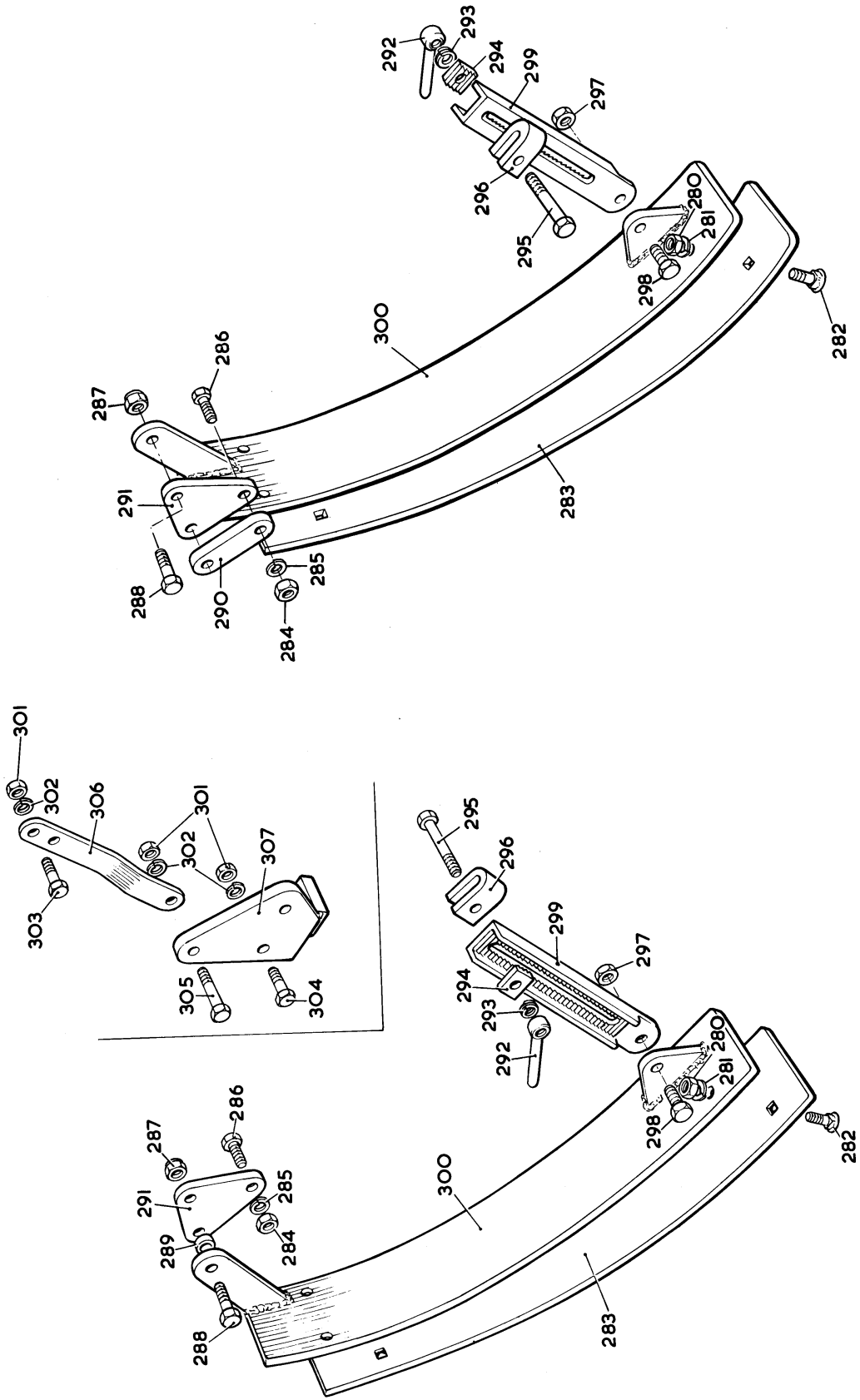


Illus. No.	Part Number	Description	No. off	Bulletin	Bin No.
BLADED ROTOR AND STUB AXLE					
220	67919	Rotor - standard	1		
	+69174	Rotor - strengthened	1		
	67921	Rotor - standard	1		
	+69173	Rotor - strengthened	1		
	68981	Rotor - 70" model	1		
	69203	Rotor - 80" model	1		
	69915	Rotor - 90" model	1		
	+Special orders only				
	Standard rotor tube size 4" o.d. x 3 1/2" bore				
	Strengthened rotor tube size 4 1/2" o.d. x 3 7/8" bore				
221	66869	Shearing blade L.H. ...	1		
222	66868	Shearing blade R.H. ...	1		
		Model 50" 60" 70" 80" 90"			
223	3900	Straight shank blade L.H. ...	15		
224	3901	Straight shank blade R.H. ...	15		
	9870	Hard faced straight shank blade L.H. ...	15		
	9871	Hard faced straight shank blade R.H. ...	15		
225	9948	Speed blade L.H. ...	15		
226	9949	Speed blade R.H. ...	15		
	69754	Hard faced speed blade L.H. ...	15		
	69755	Hard faced speed blade R.H. ...	15		
227	5978	Long shank blade L.H. ...	15		
228	5979	Long shank blade R.H. ...	15		
	69764	Hard faced long shank blade L.H. ...	15		
	69765	Hard faced long shank blade R.H. ...	15		
229	3903	Blade bolt assembly including:-	64		
		Spring washer 1/2" dia. packets of 10	64		
		High nut	64		
230	108081440	Setscrew 1/2" UNC x 1 1/8" long Hex. head	6		
231	52053	Tab washer	3		
232 - 234	not allocated				
235	101408090	Setscrew 1/2" UNF x 1 1/2" long. Hex. head	4		
236	65706	Shakeproof washer 1/2" dia. internal	4		
237	101308120	End cover	1		
238	108081430	Grease nipple 3/8" BSP - Tecalemit NA 5704	1		
239	57541	Shim .010"	1		
240	202030020	Dust cover	1		
241	57545	Up to machine serial number	1		
242	68971	Circlip 1 3/8" dia. external	1		
243	208002120	Bearing 4" o.d. x 1 5/8" i.d. x 1 5/16" w. BRM 1 5/8"	1		
244 - 246	not allocated				
247	251640091	Bearing housing	1		
248	67931	Oilseal 3" o.d. x 2 1/4" i.d. x 3/8" w. double lipped	1		
249	263022043	Sleeve	1		
250	67932	Stub axle	1		
251	67930	Spacer	1		
252	68972	Dust cover	1		
253	65703		1		
237	101108140	Bolt 1/2" UNF x 1 1/4" long	4		
238	108081430	Shakeproof washer 1/2" dia. Internal	4		
239	324545	End cover	1		
240	202030020	Grease nipple 3/8" BSP - Tecalemit NA 5704	1		
241	57545	Shim .010"	1		
242	68971	Dust cover	1		
		From machine serial number 630A 9301	1		
243	not allocated		1		
244	208010240	Splitpin 1/8" dia. x 2" long	1		
245	61079	Special nut	1		
246	48486	Washer	1		
247	-251640091	Bearing 4" o.d. x 1 5/8" i.d. x 1 5/16" w. - BRM 1 5/8"	1		
248	67931	Bearing housing	1		
249	263022043	Oilseal 3" o.d. x 2 1/4" i.d. x 3/8" w. double lipped	1		
250	67932	Sleeve	1		
251	59964	Stub axle	1		
252	68972	Spacer	1		
253	65703	Dust cover	1		
254 - 259	not allocated				
SPIKE ROTOR ASSEMBLIES					
70", 80", 90" MODELS					
260	101308100	Setscrew 1/2" UNF x 1 1/4" long. Hex. head	16		
261	59942	Tab washer	8		
262	59924	Stub axle adaptor plate	1		
263	59923	Drive adaptor plate	1		
		Model 70" 80" 90"			
264	107116150	Gripco nut 1" UNF	33		
265	59967	Spike and nut	33		
266	59955	Rotor - 70" model	1		
	59926	Rotor - 80" model	1		
	59925	Rotor - 90" model	1		
N.I.	59960	Tube spanner and tommy bar	1		
267	208015125	Spiral pin 1/2" dia. x 1 3/4" long	31		
268	650633	Spike - supersedes 58504	31		
269	58501	Rotor - 70" model	1		
	58512	Rotor - 80" model	1		
	58515	Rotor - 90" model	1		
270	330289	Pin punch - supersedes 58508	1		
271	330290	Pin remover - supersedes 58509	1		
272	330291	Pin bar - supersedes 58510	1		
273 - 279	not allocated				

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Howard E Series - Parts List

DEPTH CONTROL SKID ASSEMBLY

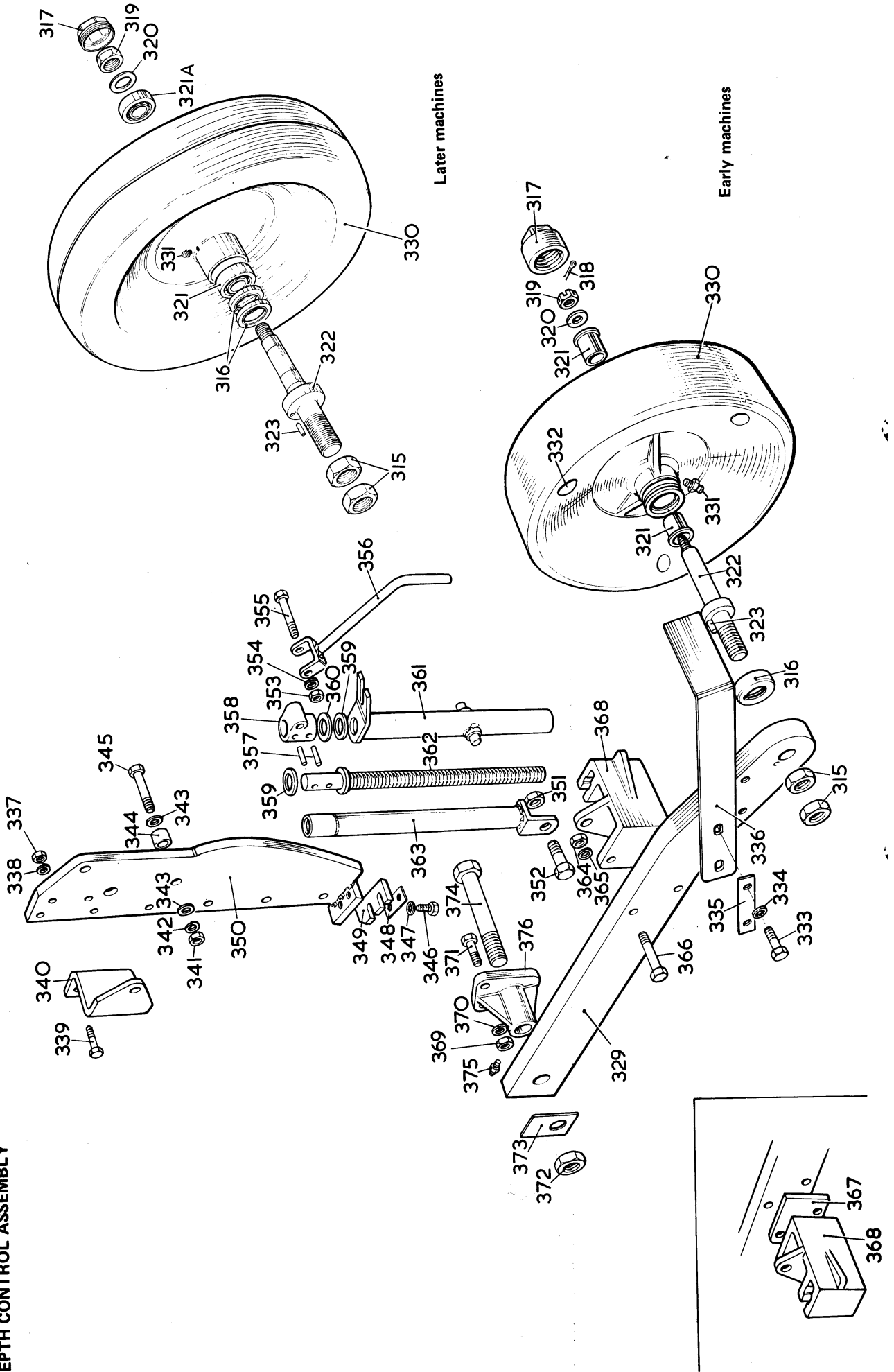


Illus. No.	Part Number	Description	No. off	Bulletin	Bin No.	Illus. No.	Part Number	Description	No. off	Bulletin	Bin No.
DEPTH CONTROL SKID ASSEMBLY											
66426		Depth control skid assembly L.H. standard 50", 60", 70" models.	1								
		Depth control skid assembly L.H. export only 80" and 90" models.	1								
		Depth control skid assembly R.H. export only 80" and 90" models.	1								
280	107107150	Nut 7/16" UNF self locking.	8								
281	108071240	Spring washer 7/16" dia.	8								
282	61051	Special bolt.	8								
283	50669	Sole plate 26" long.	2								
	53788	Sole plate 30" long - alternative fitment for soft ground.	2								
284	107108155	Nut 1/2" UNF self locking.	4								
285	108081445	Spring washer 1/2" dia.	4								
286	101308125	Setscrew 1/2" UNF x 1 1/2" long. Hex. head L.H.	2								
	101108205	Bolt 1/2" UNF x 2 1/2" long R.H.	2								
287	107108030	Selflock nut 1/2" UNF Philidas NUF 1/1.	2								
288	101308160	Setscrew 1/2" UNF x 2" long. Hex. head L.H.	1								
	101308120	Setscrew 1/2" UNF x 1 1/2" long. Hex. head R.H.	1								
289	50994	Spacer L.H.	1								
290	68922	Spacer R.H.	1								
291	5927	Pivot lug.	2								
292	54228	Adjusting bar lever.	2								
293	108081450	Spring washer 1/2" dia. double coil.	2								
294	50477	Adjusting stop.	2								
295	101208280	Bolt 1/2" UNC x 3 1/2" long.	2								
296	59968	Clevis.	2								
297	107108020	Locknut 1/2" UNF.	2								
298	101308100	Setscrew 1/2" UNF x 1 1/4" long. Hex. head.	2								
299	50476	Adjusting bar.	2								
300	54496	Skid L.H.	1								
	69366	Skid R.H.	1								
301	107108010	Nut 1/2" UNF.	4								
302	108081440	Spring washer 1/2" dia.	4								
303	101308100	Setscrew 1/2" UNF x 1 1/4" long. Hex. head L.H.	1								
304	101308120	Setscrew 1/2" UNF x 1 1/2" long. Hex. head.	2								
305	101108160	Bolt 1/2" UNF x 2" long L.H.	1								
306	53668	Shield support L.H.	1								
307	66423	Anchor plate L.H.	1								
	68782	Anchor plate R.H.	1								
308	- 314 not allocated										

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Howard E Series - Parts List

STEEL DEPTH CONTROL WHEEL
DEPTH CONTROL ASSEMBLY



Illus. No.	Part Number	Description	No. off	Bin No.
STEEL DEPTH CONTROL WHEEL				
315	107216020	Locknut 1" UNC	L.H. R.H.	
316	65667	Dust cover	2 2	
317	3706	Cap	1 1	
318	208010140	Splitpin $\frac{3}{32}$ " dia. x 1" long	1 1	
319	107208050	Slotted nut $\frac{1}{2}$ " UNC	1 1	
320	3703	Washer	1 1	
321	3701	Bush	1 2	
322	65668	Axle	1 1	
323	208009190	Mills pin $\frac{1}{4}$ " dia. x $\frac{5}{8}$ " long	1 1	
324	328 not allocated			
329	65665	Wheel arm	1 1	
330	51808	Steel depth control wheel, includes illus. No. 332	Early machines	
331	202030020	Grease nipple $\frac{1}{8}$ " BSP	1 1	
332	52441	Welsh plug	1 1	
333	101408120	Setscrew $\frac{1}{2}$ " UNC x $1\frac{1}{2}$ " long. Hex. head	3 3	
334	108081430	Shakeproof washer $\frac{1}{2}$ " dia. Internal	2 2	
335	108081440	Spring washer $\frac{1}{2}$ " dia.	2	
336	66073	Plate	1 1	
336	65664	Wheel scraper	1 1	
315	107216020	+ Locknut 1" UNC	L.H. R.H.	
316	264729102	* Dust seal	2 2	
317	209070170	* Wheel nut	1 1	
318	not allocated			
319	107110380	+ Nut $\frac{5}{8}$ " UNF Thin Nyloc	1 1	
320	108102010	+ Flat washer $\frac{5}{8}$ " dia.	1 1	
321	252547121	* Bearing	Later machines	
321A	252047146	* Bearing	6005 6204 machines	
322	58306	+ Axle	1 1	
323	208009190	+ Mills pin $\frac{1}{4}$ " dia. x $\frac{5}{8}$ " long	1 1	
324	329 not allocated			
330	209055520	* Wheel	1 1	
331	202030760	* Grease nipple	1 1	
		* Part of 58307 wheel assembly	1 1	
		+ Part of 58309 axle assembly	1 1	
DEPTH CONTROL ASSEMBLY				
337	107106155	Nut $\frac{3}{8}$ " UNF self locking	L.H. R.H.	
	107206150	Nut $\frac{3}{8}$ " UNF self locking	2 2	
338	108061145	Spring washer $\frac{3}{8}$ " dia.	2 2	Alternatives
339	101106125	Bolt $\frac{3}{8}$ " UNF x $1\frac{1}{2}$ " long	2 2	
	101206120	Bolt $\frac{3}{8}$ " UNF x $1\frac{1}{2}$ " long	2 2	Alternatives
340	65661	Trunnion support cranked	1 1	
341	107208150	Nut $\frac{1}{2}$ " UNC self locking	1 1	
342	108081440	Spring washer $\frac{1}{2}$ " dia.	1 1	
343	108081610	Flat washer $\frac{1}{2}$ " dia.	3	
344	62843	Spacer $\frac{1}{4}$ " wide	as required	
STEEL DEPTH CONTROL WHEEL				
345	50994	Spacer $\frac{3}{8}$ " wide - 70" and 90" models (early m/c)	L.H. R.H.	
	62069	Spacer .440" - 80" and 90" models ... as required	1	
346	101208180	Bolt $\frac{1}{2}$ " UNC x $2\frac{1}{2}$ " long	1 1	
347	101406060	Setscrew $\frac{3}{8}$ " UNC x $\frac{3}{4}$ " long. Hex. head	2	
348	108061130	Shakeproof washer $\frac{3}{8}$ " dia. Internal	2	
349	69367	Backing strip	1	
349	69367	Cutter blade L.H.	1	
350	65662	Anchor plate L.H. superseded by 66219	1	
351	107210020	Locknut $\frac{5}{8}$ " UNC	1 1	
352	101410120	Setscrew $\frac{5}{8}$ " UNC x $1\frac{1}{2}$ " long. Hex. head	1 1	
353	107206020	Locknut $\frac{5}{8}$ " UNC	1 1	
354	108061140	Spring washer $\frac{3}{8}$ " dia.	1 1	
355	101206180	Bolt $\frac{3}{8}$ " UNC x $2\frac{1}{4}$ " long	1 1	
356	3448	Handle	Alternatives	
353	307210045	Locknut $\frac{3}{8}$ " UNC	1 1	
354	not allocated			
355	310210605	Bolt M10 x 60	1 1	
356	650184	Handle	1 1	
357	208012070	Tension pin $\frac{1}{4}$ " dia. x $1\frac{1}{4}$ " long	2 2	
358	55481	Handle block	1 1	
359	65650	Thrust washer	2 2	
360	108122410	Flat washer $\frac{3}{4}$ " dia.	1 1	
361	65657	Outer tube	1 1	
362	65654	Screw	1 1	
363	65651	Inner tube	1 1	
364	107208150	Nut $\frac{1}{2}$ " UNC self locking	2 2	
365	108081440	Spring washer $\frac{1}{2}$ " dia.	2 2	
366	101208180	Bolt $\frac{1}{2}$ " UNC x $2\frac{1}{2}$ " long	2 2	
	101208200	Bolt $\frac{1}{2}$ " UNC x $2\frac{1}{2}$ " long	2	
367	68774	Spacer - R.H. only wheel arm to clevis bracket	1	
368	62503	Clevis bracket L.H.	1	
	68772	Clevis bracket R.H.	1	
369	107108155	Nut $\frac{1}{2}$ " UNF self locking	3 3	
370	108081445	Spring washer $\frac{1}{2}$ " dia.	3 3	
371	101308125	Setscrew $\frac{1}{2}$ " UNF x $1\frac{1}{2}$ " long. Hex. head	Alter-3	
	101408120	Setscrew $\frac{1}{2}$ " UNF x $1\frac{1}{2}$ " long. Hex. head	natives 3	
372	107216020	Locknut 1" UNC	1 1	
373	69097	Tab washer	1 1	
374	150216425	Bolt 1" UNC x $5\frac{1}{4}$ " long	1 1	
	150216505	Bolt 1" UNC x $6\frac{1}{4}$ " long	1	
375	202030420	Grease nipple $\frac{1}{4}$ " BSF - Nubrex N7/A	1 1	
376	62833	Pivot plate L.H.	1 1	
	68771	Pivot plate R.H.	1	
	377 - 383	not allocated		

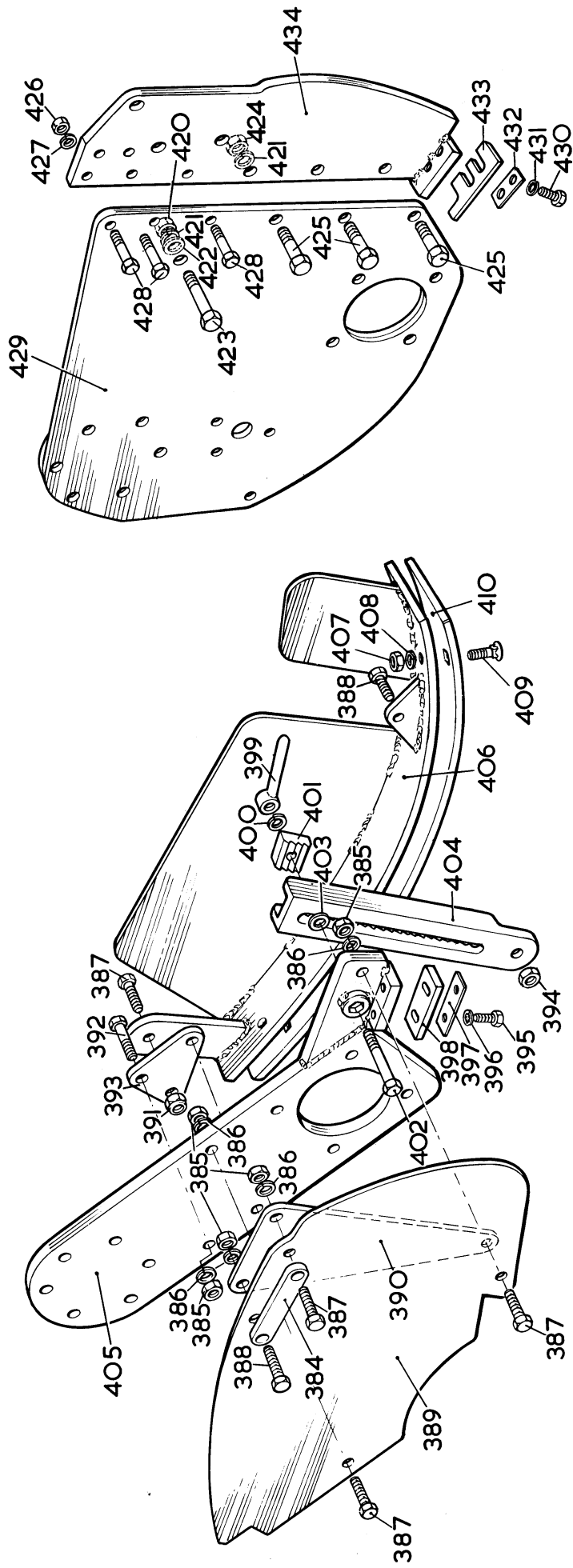
Howard E Series-- Parts List

SUPPORT ARM ASSEMBLY
SIDEPLATE ASSEMBLY

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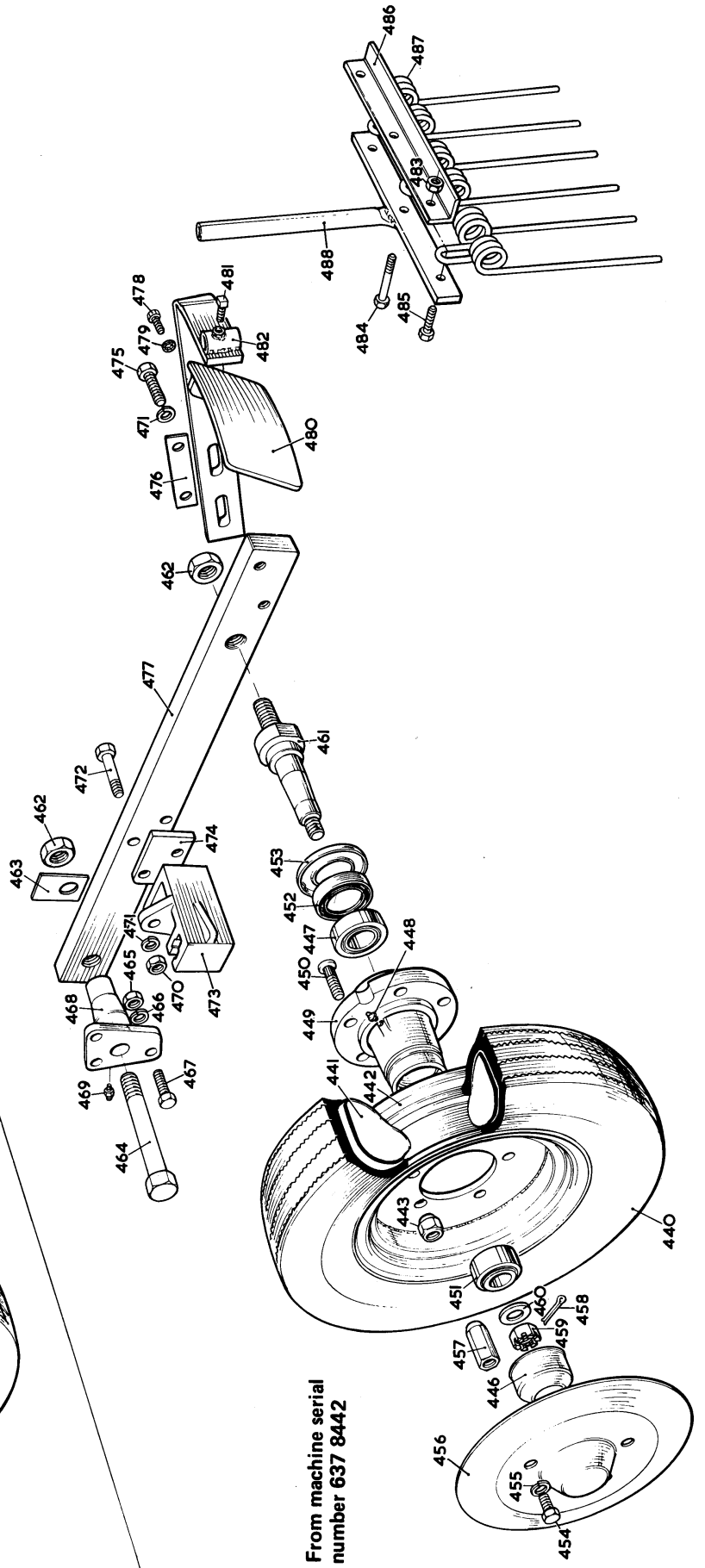
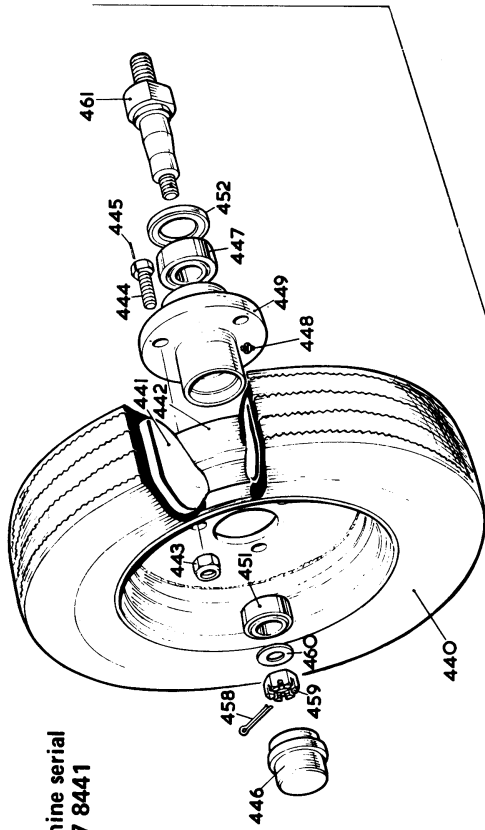
Illus. No.	Part Number	Description	No. off	Bulletin	Bin No.
SUPPORT ARM ASSEMBLY					
50", 60", 70" MODELS					
384	58275	Distance piece	1		
385	107108150	Nut 1/2" UNF self locking	...		
386	108081440	Spring washer 1/2" dia.	6		
387	101308120	Setscrew 1/2" UNF x 1 1/2" long. Hex. head	4		
388	101308100	Setscrew 1/2" UNF x 1 1/2" long. Hex. head	2		
389	67607	Sideshield	1		
390	65624	Shield support	1		
391	107108030	Self lock nut 1/2" UNF - Philidas NUF1	1		
392	101108140	Bolt 1/2" UNF x 1 3/4" long	2		
393	5927	Pivot lug	1		
394	107108020	Locknut 1/2" UNF	1		
395	101406070	Setscrew 3/8" UNC x 7/8" long. Hex. head	2		
396	108061130	Shakeproof washer 3/8" dia. Internal	2		
397	5807	Backing strip	1		
398	66223	Cutter blade R.H.	1		
399	54228	Adjusting bar lever	1		
400	108081450	Spring washer 1/2" dia. Double coil	1		
401	50477	Adjusting stop	1		
402	101208200	Bolt 1/2" UNC x 2 1/2" long	1		
403	3703	Washer	1		
404	50476	Adjusting bar	1		
405	65621	Support arm	1		
406	67608	Depth limit skid 2 1/2" wide - Standard	1		
407	107107150	Depth limit skid 3 1/2" wide	1		
408	108071240	Nut 7/16" UNF self locking	4		
409	61051	Spring washer 1 1/8" dia.	4		
410	50669	Special bolt	4		
		Sole plate 26" long - Standard	1		
		Sole plate 30" long - Alternative	1		
411 - 419	not allocated				
SIDEPLATE ASSEMBLY					
80", 90" MODELS AND					
70" WITH CRUMBLE ROLLER					
420	107108150	Nut 1/2" UNF self locking	1		
421	108081440	Spring washer 1/2" dia.	...		
422	108081610	Flat washer 1/2" dia.	4		
423	101108160	Bolt 1/2" UNF x 2" long	1		
424	101208160	Bolt 1/2" UNC x 2" long	1		
425	107208150	Nut 1/2" UNC self locking	3		
426	107206150	Setscrew 1/2" UNC x 1 1/2" long. Hex. head	3		
427	108061140	Nut 3/8" UNC self locking	3		
428	101206120	Spring washer 3/8" dia.	3		
429	68775	Bolt 3/8" UNC x 1 1/2" long	3		
430	101406060	Sideshield	1		
431	108061130	Setscrew 3/8" UNC x 3/4" long. Hex. head	2		
432	3678	Shakeproof washer 3/8" dia. Internal	2		
433	69307	Backing strip	1		
434	68773	Cutter blade R.H.	1		
435 - 439	not allocated				

Howard E Series - Parts List

PNEUMATIC DEPTH CONTROL WHEEL ASSEMBLY

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Up to machine serial number 637 8441

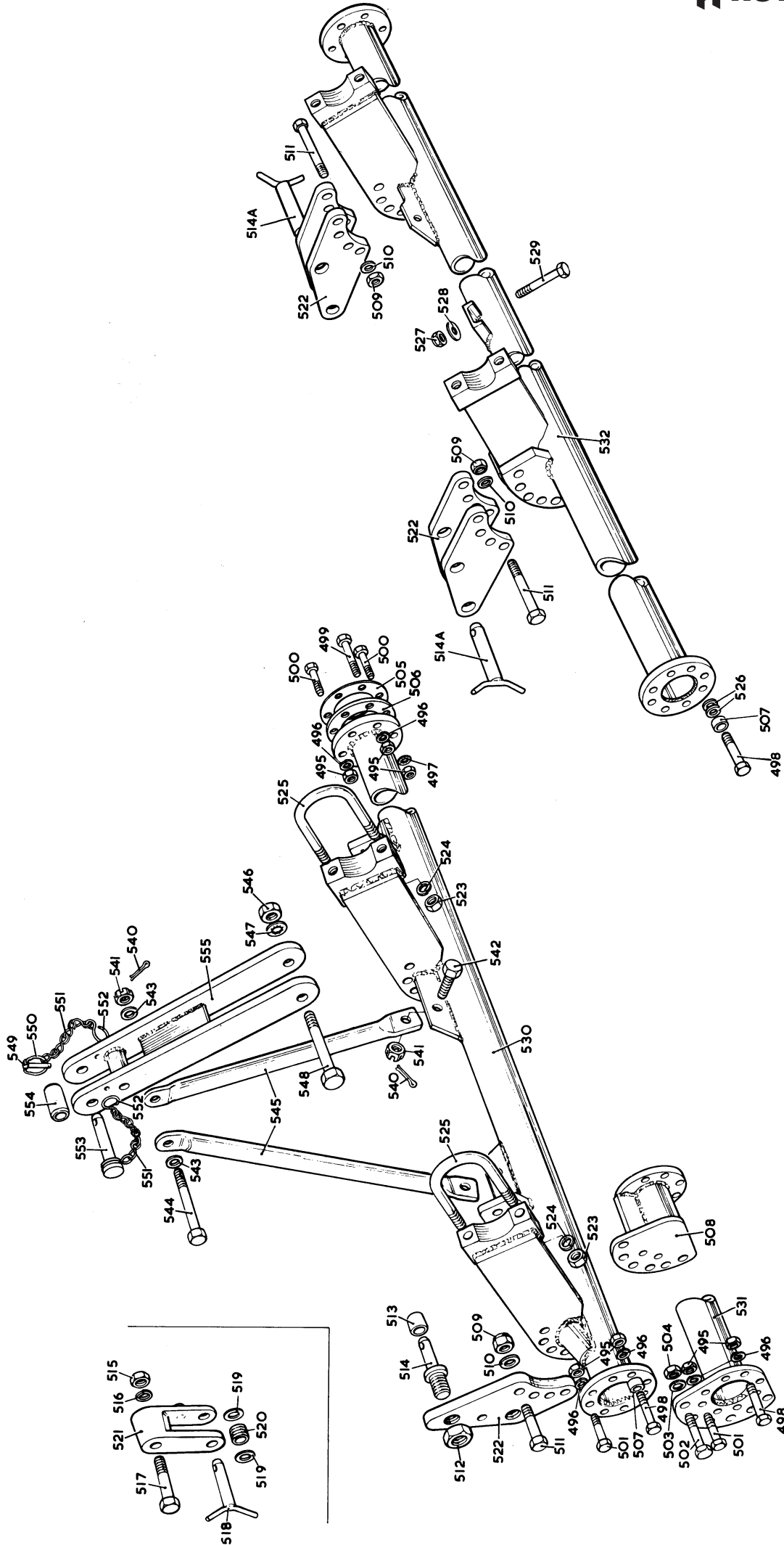


From machine serial number 637 8442

Illus. Part Number No.	Description	No. off	Bin No.
PNEUMATIC DEPTH CONTROL WHEEL ASSEMBLY			
	Depth control rubber wheel assembly.	L.H.R.H.	
	Illustration numbers 440 - 452		
+68769	Hub assembly - Connolly ENG 3516 comprising:-	1 1	
440	Tyre 5.50 x 12 - 4 ply	1 1	
441	Tube 5.00 x 12	1 1	
442	Wheel disc 3.00 x 12 - Connolly EN 5089	1 1	
209001270	Hub assembly - Connolly ENB 5089 comprising:-	1 1	
443	Nut $\frac{5}{8}$ " BSF Nyloc	3 3	
444	Setscrew $\frac{3}{8}$ " BSF x $1\frac{5}{8}$ " long - Connolly END 4818	3 3	
445	Tension pin $\frac{1}{8}$ " dia. x $\frac{5}{8}$ " long	3 3	
446	Hub cap	1 1	
447	Bearing - Timken 14125/14274	1 1	
448	Grease nipple $\frac{1}{4}$ " BSP - Tecalemit NA 5700/1	1 1	
449	Hub - Connolly 5091	1 1	
450 not allocated			
451	Bearing - Timken 07100 SA/07210X	1 1	
452	Oilseal - Superfect G281120	1 1	
453 - 457 not allocated			
458	Splitpin $\frac{3}{16}$ " dia. x $1\frac{1}{2}$ " long	1 1	
459	Slotted nut $\frac{3}{4}$ " UNF	1 1	
460	Flat washer $\frac{3}{4}$ " dia.	1 1	
461	Axle	1 1	
68754			
+69700	Depth control rubber wheel assembly.		
440	Illustration numbers 440 - 457	1 1	
209058220	Tyre 5.50 x 12 - 4 ply	1 1	
209001260	Tube 5.00 x 12	1 1	
209028520	Wheel disc 3.00 x 12 - Connolly ENC 6076	1 1	
209028800	Hub assembly - Connolly ENC 6310 comprising:-	1 1	
209028350	Wheel nut $\frac{1}{2}$ " UNF	2 2	
444 and 445 not allocated			
209028380	Hub cap	1 1	
251119062	Bearing - Timken Cone L44649 Cup L44610	1 1	
202030030	Grease nipple $\frac{1}{4}$ " UNF - Tecalemit NA 6625	1 1	
209028370	Hub - Connolly 4403	1 1	
209028360	Serrated stud $\frac{1}{2}$ " UNF x $1\frac{1}{2}$ " long	5 5	
251425071	Bearing - Timken Cone LM 48548 Cup LM 48510	1 1	
262717041	Oilseal 2 $\frac{3}{4}$ " o.d. x $1\frac{3}{4}$ " i.d. x $\frac{3}{8}$ " w.	1 1	
209028500	Dust cover	1 1	
101308080	Setscrew $\frac{1}{2}$ " UNF x $1\frac{1}{2}$ " long	3 3	
108081440	Spring washer $\frac{1}{2}$ " dia.	3 3	
69808	Wheel cover	1 1	
69098	Spacer	3 3	
208010330	Split pin $\frac{3}{16}$ " dia. x $1\frac{1}{2}$ " long	1 1	
107112050	Slotted nut $\frac{3}{4}$ " UNF	1 1	
108122410	Flat washer $\frac{3}{4}$ " dia.	1 1	
69698	Axle	1 1	
+Alternatives - interchangeable as complete assemblies only			
PNEUMATIC DEPTH CONTROL WHEEL ASSEMBLY			
	Locknut 1" UNC	L.H.R.H.	
107216020	Locknut 1" UNC - with Crumble Roller	2 2	
107216020	Tab washer	1 1	
69097	Bolt 1" UNC x $5\frac{1}{4}$ " long	1 1	
150216425	Bolt 1" UNC x $6\frac{1}{4}$ " long	1 1	
150216505	Nut $\frac{1}{2}$ " UNF self locking	3 3	
107108155	Nut $\frac{1}{2}$ " UNF self locking Alternatives	3 3	
107208150	Spring washer $\frac{1}{2}$ " dia.	3 3	
108081445	Setscrew $\frac{1}{2}$ " UNF x $1\frac{1}{2}$ " long. Hex. head	3 3	
101308125	Setscrew $\frac{1}{2}$ " UNC x $1\frac{1}{2}$ " long. Hex. head	3 3	
101408120	Pivot plate	1 1	
62833	Pivot plate	1 1	
68771	Grease nipple $\frac{1}{4}$ " BSF - Nubrex N7-A	1 1	
202030420	Nut $\frac{1}{2}$ " UNC self locking	2 2	
107208150	Spring washer $\frac{1}{2}$ " dia.	4 4	
108081440	Spring washer $\frac{1}{2}$ " dia. - with Crumble Roller	2 2	
108081440	Bolt $\frac{1}{2}$ " UNC x $2\frac{1}{2}$ " long	2 2	
101208180	Bolt $\frac{1}{2}$ " UNC x $2\frac{1}{2}$ " long	2 2	
101208200	Clevis bracket	1 1	
62503	Clevis bracket	1 1	
68772	Spacer	1 1	
68774	Setscrew $\frac{1}{2}$ " UNC x $1\frac{1}{2}$ " long. Hex. head	2 2	
101408120	Plate	1 1	
66073	Wheel arm	1 1	
68806	Wheel scraper assembly L.H.	1 1	
68815	Wheel scraper assembly R.H.	1 1	
68816	comprising:-		
101406060	Setscrew $\frac{3}{8}$ " UNC x $\frac{3}{4}$ " long. Hex. head	2 2	
108061130	Shakeproof washer $\frac{3}{8}$ " dia. Internal	2 2	
68814	Scraper blade	1 1	
68813	Scraper blade	1 1	
126406080	Setscrew $\frac{3}{8}$ " UNC x $1\frac{1}{2}$ " long. Square head	1 1	
68807	Cup point	1 1	
68808	Scraper arm	1 1	
68826	Scraper arm	1 1	
68826	Spring tine assembly	1 1	
68826	comprising:-		
107206130	Nut $\frac{3}{8}$ " UNC Philidas turret JUCP/1	3 3	
101206160	Bolt $\frac{3}{8}$ " UNC x $2\frac{1}{2}$ " long	1 1	
101406100	Setscrew $\frac{3}{8}$ " UNC x $1\frac{1}{4}$ " long. Hex. head	2 2	
68828	Clamp bar	1 1	
68830	Spring tine	3 3	
69094	Mounting bar	1 1	
489 - 494 not allocated			

Howard E Series - Parts List

STAYTUBE AND TOPMAST ASSEMBLIES

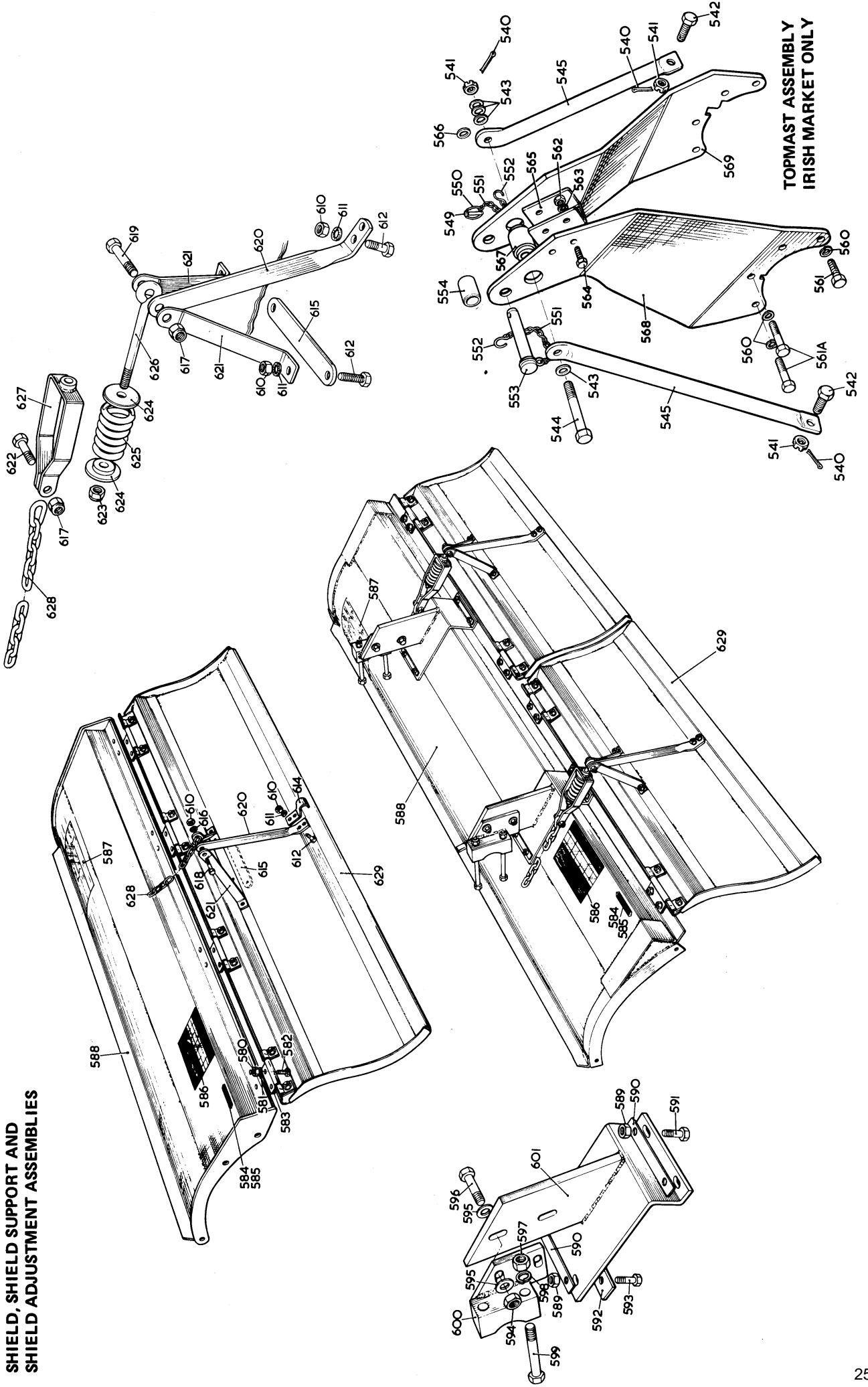


Illus. No.	Part Number	Description	No. off	Bulletin	Bin No.
STAYTUBE ASSEMBLY					
495	107108150	Nut 1/2" UNF self locking —			
		EMU 50", EMG 60", 70"	13		
496	107108150	Nut 1/2" UNF self locking —			
		EMG 50", EMU 60", 70", E80", 90"	14		
497	108081440	Spring washer 1/2" dia. —			
		EMU 50", EMG 60", 70"	11		
498	108081440	Spring washer 1/2" dia. —			
		EMG 50", EMU 60", 70", E80", 90"	12		
499	108081430	Shakeproof washer 1/2" dia. Internal	2		
500	101108200	Bolt 1/2" UNF x 2 1/2" long. Staytube—Backplate—Shield	1		
501	101108200	Bolt 1/2" UNF x 2 1/2" long. Staytube—Shield—Support	1		
502	101108180	Arm EMU and EMG 50", 60", 70"	1		
503	101108180	Bolt 1/2" UNF x 2 1/2" long. — E 80", 90"	1		
504	101108160	Bolt 1/2" UNF x 2" long. Staytube—Support Arm	1		
505	101108140	EMU and EMG 50", 60", 70"	5		
506	101108140	Bolt 1/2" UNF x 1 1/2" long — E 80", 90"	5		
507	101108180	Bolt 1/2" UNF x 2 1/2" long. Staytube—Backplate —	7		
508	101108140	EMG 50"	7		
509	101108140	Bolt 1/2" UNF x 1 3/4" long — EMU 50", EMG 60", 70"	6		
510	101108140	Bolt 3/8" UNF x 1 1/2" long — EMU 60", 70", E 80", 90"	7		
511	101110160	EMU 50", EMG 60", 70"	1		
512	108101740	Spring washer 3/8" dia. — EMU 50", EMG 60", 70"	1		
513	107110150	Nut 5/8" UNF self locking — EMU 50", EMG 60", 70"	1		
514	66226	Spacer 2.5 mm (12 SWG) — alternatives as required			
515	68778	Spacer 6mm (1/4") — alternatives as required			
516	68739	Spacer 1.6 mm (16 SWG)			
517	54288	Spacer — EMG 50", EMU 60", 70", E 80", 90" (early m/c's)	1		
518	69404	Extension tube — EMG 50" only	1		
519	107110130	Nut 3/8" UNF Philidas turret type —			
520		EMU and EMG 50", 60", 70"	8		
521	107210135	Nut 3/8" UNC Philidas turret type — E 80", 90"	8		
522	108102010	Flat washer 5/8" dia. EMU and EMG 50", 60", 70"	8		
523	108102015	Flat washer 3/8" dia. — E 80", 90"	8		
524	101110200	Bolt 5/8" UNF x 2 1/2" long —			
525		EMU and EMG 50", 60", 70"	8		
526	101210405	Bolt 5/8" UNC x 5" long — E 80", 90"	8		
527	34800	Special nut	2		
528	54463	Sleeve (cat. 1 to cat. 11) } EMU and	2		
529	68071	Mounting pin cat. 1 } Alternatives } EMG 50", 60", 70"	2		
530	68072	Mounting pin cat. 11 } Alternatives } EMG 50", 60", 70"	2		
531	514 A 300299	Mounting pin — E 80", 90"	2		
532	107114150	Nut 7/8" UNF — Grippo toplock	2		
533	108142240	Spring washer 7/8" dia.	2		
534	101114400	Bolt 5/8" UNF x 5" long } Optional extras for EMU and EMG 50", 60", 70"	2		
535	65616	Mounting pin	2		
536	108142610	Flat washer 7/8" dia.	4		
537	68074	Sleeve	2		
538	65613	Clevis	2		
TOPMAST ASSEMBLY					
540	208010220	Splitpin 1/8" dia. x 1 3/8" long	3		
541	107110055	Slotted nut 5/8" UNF	3		
542	65966	Special bolt	2		
543	108102015	Flat washer 5/8" dia.	2		
544	65965	Special bolt	1		
545	65936	Tube support — EMU 50", 60", 70", EMG 50"	2		
546	107112155	Nut 3/4" UNF — Grippo toplock	1		
547	108122035	Shakeproof washer 3/4" dia. Internal	1		
548	101112345	Bolt 3/4" UNF x 4 1/4" long	1		
549	50934	Clip pin	1		
550	60495	Clip ring	1		
551	3913	Chain	2		
552	3912	Hook	3		
553	65566	Draw pin	1		
554	65577	Sleeve	1		
555	65562	Topmast	1		
556		556 - 559 not allocated			

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Howard E Series - Parts List

SHIELD, SHIELD SUPPORT AND SHIELD ADJUSTMENT ASSEMBLIES

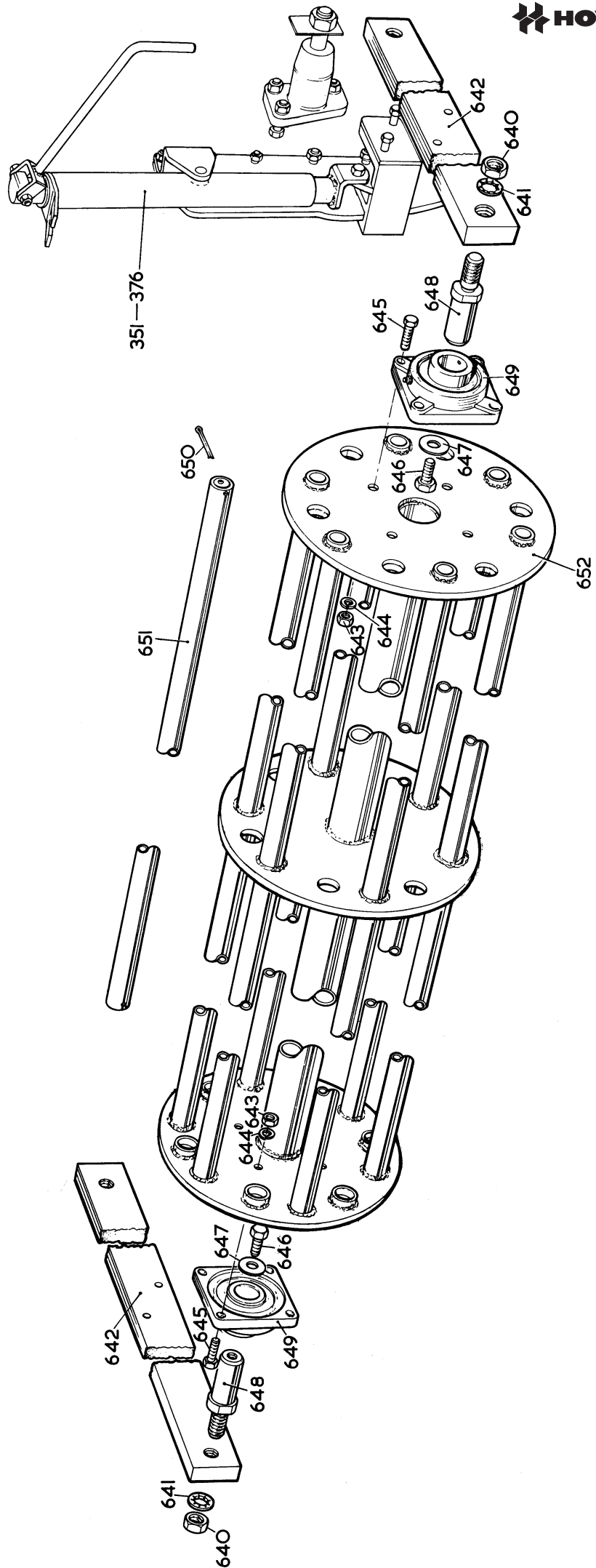


TOPMAST ASSEMBLY
IRISH MARKET ONLY

Illus. No.	Part Number	Description	No. off	Bulletin	Bin No.
TOPMAST ASSEMBLY EMU 50", 60", 70", 80", 90", IRISH MARKET ONLY					
540	208010220	Splitpin 1/2" dia. x 1 3/8" long	3		
541	107110055	Slotted nut 3/8" UNF	3		
542	65966	Special bolt	2		
543	108102015	Flat washer 3/8" dia.	4		
544	65965	Special bolt	1		
545	65936	Tube support ... 50", 60", 70" models	2		
	65561	Tube support ... 80", 90" models	2		
549	60934	Clip pin	1		
550	60495	Clip ring	1		
551	3913	Chain	2		
552	3912	Hook	3		
553	65566	Draw pin	1		
554	65577	Sleeve	1		
560	108081445	Spring Washer 1/2" dia.	8		
561	101408125	Setscrew 1/2" UNC x 1 1/2" long ... 80", 90" models	8		
561	101408125	Setscrew 1/2" UNC x 1 1/2" long ... 50", 60", 70" models	6		
561A	101208165	Bolt 1/2" UNC x 2" long ... 50", 60", 70" models	2		
562	107206150	Nut 3/8" UNC self locking	4		
563	108061140	Spring washer 3/8" dia.	4		
564	101406090	Setscrew 3/8" UNC x 1 1/8" long	4		
565	69941	Centre channel	1		
566	62099	Spacer - early machines only	1		
567	69942	Offset insert	1		
568	69939	Topmast L.H.	1		
569	69940	Topmast R.H.	1		
570	579 not allocated		1		
SHIELD ASSEMBLY					
580	107108150	Nut 1/2" UNF self locking	16		
581	108081430	Shakeproof washer 1/2" dia. Internal	16		
582	101308100	Setscrew 1/2" UNF x 1 1/2" long. Hex. head	16		
583	50724	Hinge	4		
584	66489	Patents plate	1		
585	2C3026010	Chobert rivet 3/32" dia. x 1 1/8" long	2		
586	58169	Selectalith label 540 rpm pto	1		
	58170	Selectalith label 1000 rpm pto	1		
587	58173	Warning label	1		
588	58250	Shield 50" model - superseded 54252	1		
	58251	Shield 60" model - superseded 54301	1		
	58252	Shield 70" model - superseded 54359	1		
	58253	Shield 80" model - superseded 68741	1		
	58254	Shield 90" model - superseded 69906	1		
SHIELD SUPPORT ASSEMBLY 70", 80", 90" MODELS					
From machine serial number 630A 3398					
589	107206150	Nut 3/8" UNC self locking	8		
590	58084	Washer strip	4		
591	101406100	Setscrew 3/8" UNC x 1 1/2" long. Hex. head	4		
SHIELD ADJUSTMENT ASSEMBLY					
592	58067	Clamp plate	2		
593	101406080	Setscrew 3/8" UNC x 1" long. Hex. head	4		
594	107208150	Nut 1/2" UNC self locking	4		
595	108081610	Flat washer 1/2" dia.	8		
596	101208140	Bolt 1/2" UNC x 1 1/4" long	4		
597	107210150	Nut 3/8" UNC - Gripco toplock	4		
598	108101740	Spring washer 5/8" dia.	4		
599	101210460	Bolt 3/8" UNC x 5 3/4" long	4		
600	58080	Clamp saddle L.H. 80" and 90" models	1		
	58081	Clamp saddle R.H. 70" model	2		
	58081	Clamp saddle R.H. 80" and 90" models	1		
601	58065	Shield support L.H. 80" and 90" models	1		
	58066	Shield support R.H. 70" model	2		
	58066	Shield support R.H. 80" and 90" models	1		
602	609 not allocated		1		
610	107206150	Nut 3/8" UNC self locking 50", 60", and 70" models	5		
	107206150	Nut 3/8" UNC self locking 80" and 90" models	8		
611	108061130	Shakeproof washer 3/8" dia. Internal. 50", 60", and 70" models	4		
	108061130	Shakeproof washer 3/8" dia. Internal. 80" and 90" models	8		
612	101406100	Setscrew 3/8" UNC x 1 1/4" long Hex head	4		
	101406100	Setscrew 3/8" UNC x 1 1/4" long Hex head	8		
613	not allocated		1		
614	65646	Hook 50", 60", 70" models	2		
	65646	Hook 80", 90" models	4		
612	101406100	Setscrew 3/8" UNC x 1 1/4" long. Hex. head	4		
613	101406080	Setscrew 3/8" UNC x 1" long. Hex. head 80" and 90" models	4		
614	65646	Hook 50", 60", and 70" models	1		
615	65647	Stiffening strip 50", 60" and 70" models	2		
	65647	Stiffening strip 80" and 90" models	1		
616	108061140	Spring washer 3/8" dia. 50", 60" and 70" models	1		
617	107206030	Nut 3/8" UNC - Philidas JUCI/1 80" and 90" models	4		
618	101206140	Bolt 3/8" UNC x 1 1/4" long. 50", 60" and 70" models	2		
619	101206160	Bolt 3/8" UNC x 2" long. 80" and 90" models	2		
620	65645	Centre stay. 50", 60" and 70" models	1		
	65645	Centre stay. 80" and 90" models	2		
621	65644	Front support. 50" 60" and 70" models	2		
	65644	Front support. 80" and 90" models	4		
622	101206110	Bolt 3/8" UNC x 1 3/8" long 80" and 90" models	2		
	305026	Damper assembly. 80" and 90" models	2		
comprising:-					
623	107206130	Nut 3/8" UNC - Philidas Turret JUCP/1	2		
624	305336	Washer	4		
625	2280	Spring	2		
626	305335	Rod	2		
627	305330	Shackle	2		

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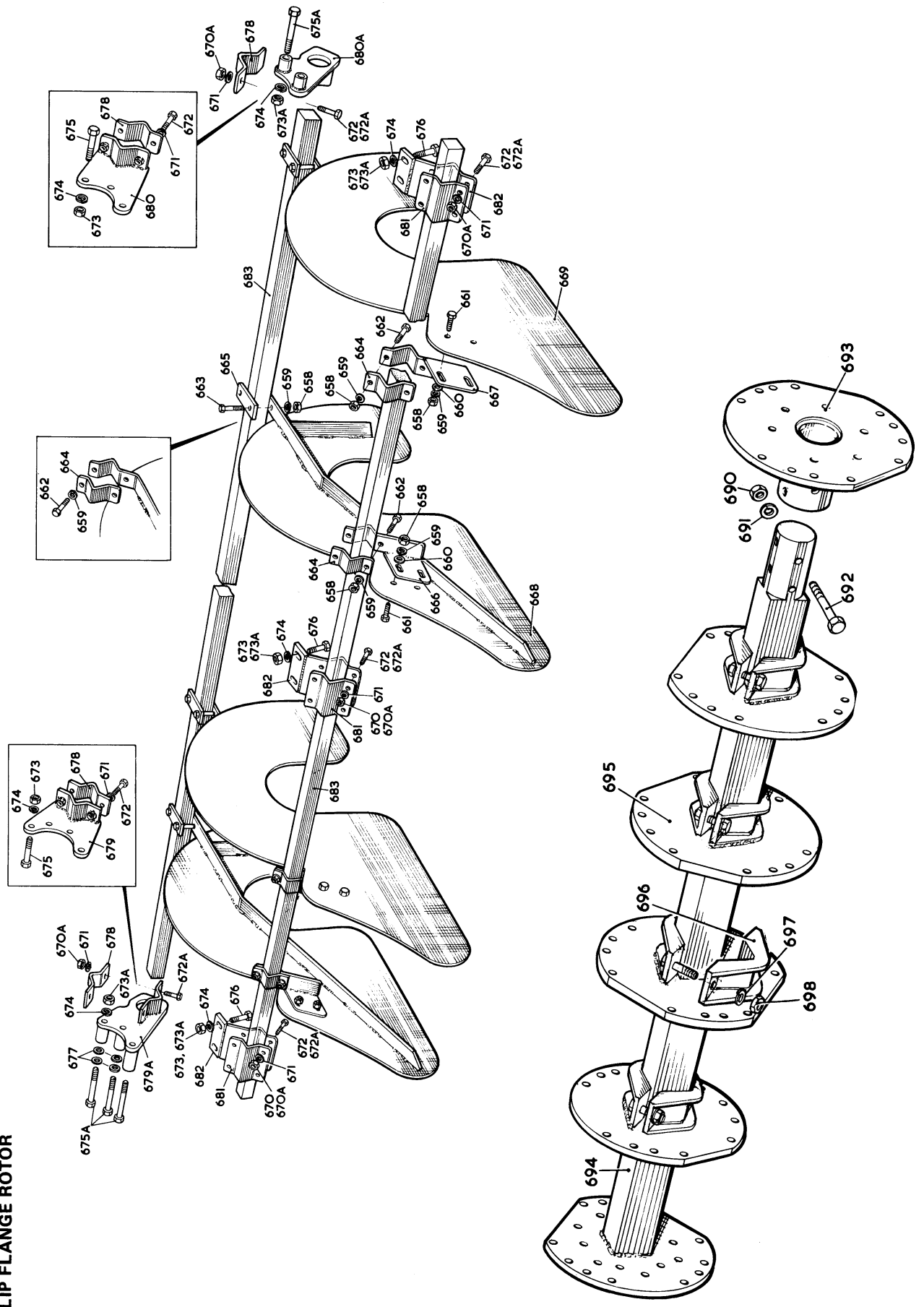
Howard E Series - Parts List
CRUMBLE ROLLER



Illus. No.	Part Number	Description	No. off	Bulletin	Bin No.	Illus. No.	Part Number	Description	No. off	Bulletin	Bin No.
628	59961	Chain, 50" 60" and 70" models	1								
	59961	Chain, 80" and 90" models	2								
629	67963	Trailing board, 50" model	1								
	65638	Trailing board, 60" model	1								
	65737	Trailing board, EMU 70" model	1								
	66508	Trailing board, EMG 70" model	1								
	68747	Trailing board, 80" model	2								
	69907	Trailing board, 90" model	2								
630 - 639 not allocated											
CRUMBLE ROLLER											
70", 80", 90" MODELS											
640	107216020	Locknut, 1" UNC	2								
641	108162630	Shakeproof washer 1" dia. Internal	2								
642	59935	Support arm	2								
643	107208150	Nut 1/2" UNC self locking	8								
644	108081440	Spring washer 1/2" dia.	8								
645	101408120	Setscrew 1/2" UNC x 1 1/2" long. Hex. head	8								
646	101408100	Setscrew 1/2" UNC x 1 1/4" long. Hex. head	2								
647	69717	Washer	2								
648	59928	Axle	2								
649	253551205	Bearing 35 mm bore triple sealed, RHP 7/T MSF/35	2								
650	208010310	Splitpin 5/32" dia. x 1 1/2" long	12								
651	59952	Roller, 70" model	6								
	59931	Roller, 80" model	6								
	59932	Roller, 90" model	6								
652	59948	Crumroll tube, 70" model	1								
	59936	Crumroll tube, 80" model	1								
	59937	Crumroll tube, 90" model	1								
653 - 657 not allocated											

Howard E Series - Parts List

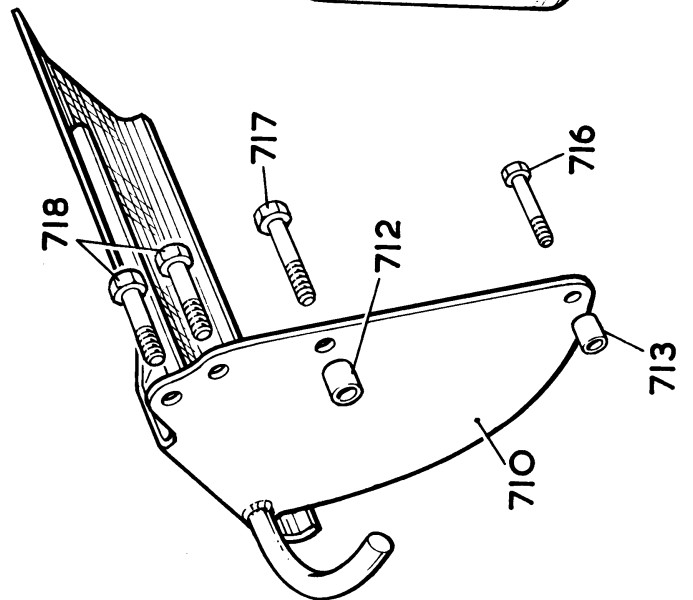
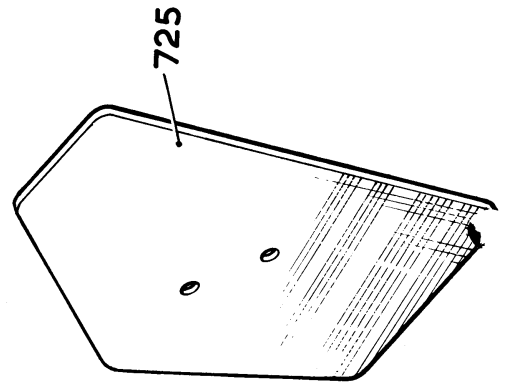
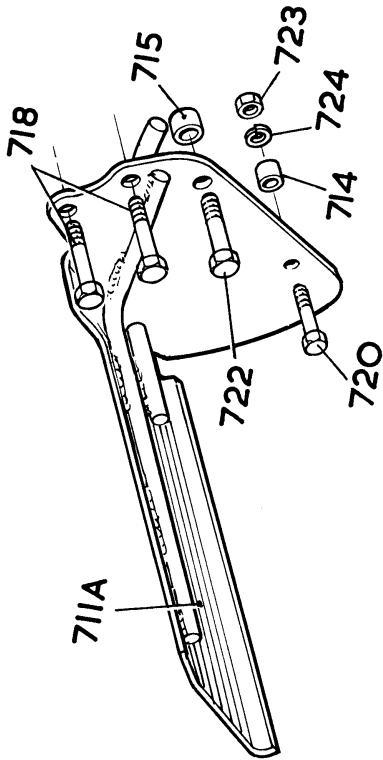
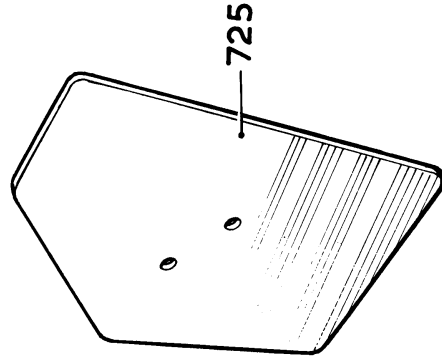
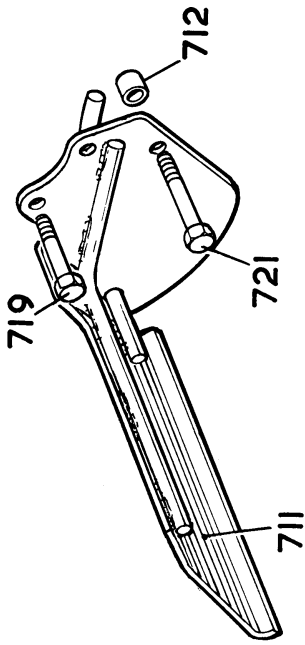
**CROP GUARD ASSEMBLY
SLIP FLANGE ROTOR**



Illus. Part Number No.	Description	No. off	Bin No.
*Early machines +Later machines *66512 *66511 +58058 +58057	CROP GUARD ASSEMBLY 50", 60", 70", 80" MODELS To distinguish between early and later types refer to support plates illus. no. 679-679A & 680-680A +Crop shields L.H. ... as required +Crop shields R.H. ... as required +Crop shields L.H. ... as required +Crop shields R.H. ... as required includes:- Nut 3/8" UNC self locking ... 8 Spring washer 5/8" dia. ... 12 Flat washer 3/8" dia. plain ... 4 Setscrew 5/8" UNC x 1" long, Hex. head ... 4 Bolt 3/4" UNC x 1 1/2" long ... 8 Bolt 3/4" UNC x 1 1/2" long ... 4 Bolt 3/8" UNC x 2 1/2" long ... 4 Clamp ... 4 Clamp ... 2 Clamp plate ... 2 Bracket L.H. ... 1 Bracket R.H. ... 1 Crop shield L.H. ... 1 Crop shield L.H. ... 1 Crop shield R.H. ... 1 Crop shield R.H. ... 1 Nut 3/8" UNC self locking ... 12 Nut 3/8" UNC self locking ... 16 Spring washer 3/8" dia. ... 16 Bolt 3/8" UNC x 1 1/2" long ... 16 Bolt 3/8" UNC x 1 1/2" long ... 16 Nut 1/2" UNC self locking ... 13 Locknut 1/2" UNF ... 11 Spring washer 1/2" dia. ... 13 Spring washer 1/2" dia. ... 7 Bolt 1/2" UNC x 2 1/2" long ... 5 Bolt 1/2" UNF x 3 1/2" long ... 6 Bolt 1/2" UNC x 1 1/2" long ... 6 Bolt 1/2" UNF x 1 1/2" long ... 6		
658 107206150 659 108061140 660 108061210 661 101406080 662 *101206120 663 *101206120 664 *66235 665 *305383 666 68803 667 68802 668 *66518 +58041 669 *66517 +58042 670 *107206150 670A+107106150 671 108061140 672 *101206120 672A+101106120 673 *107208150 673A+107108150 674 *108081440 +108081440 675 *101208180 675A+101108280 676 *101208140 +101108140			
677 +108081610 678 66235 679 *66514 679A+58048 680 *66513 680A+58047 681 66528 682 66524 683 +66547 +58055 *66548 +58054 *66549 +58053 *69417 +58052 684 - 689 not allocated	Flat washer 1/2" dia. For use when safety guards are not fitted ... 4 Clamp ... 2 Support plate L.H. ... 1 Support plate L.H. ... 1 Support plate R.H. ... 1 Support plate R.H. ... 3 Bracket ... 2 Support bar ... 2 Support bar ... 2 Support bar } 60" model ... 2 Support bar } 70" model ... 2 Support bar } 80" model ... 2 Support bar } Nut 1/2" UNF self locking ... 4 Spring washer 1/2" dia. ... 4 Bolt 1/2" UNF x 3 3/4" long ... 4 End flange ... 1 Rotor, 50" model ... 1 Rotor, 60" model ... 1 Rotor, 70" model ... 1 Rotor, 80" model ... 1 Centre flange ... 50" 60" 70" 80" Clamp ... 4 5 6 7 Spring washer 1/2" dia. ... 8 10 12 14 Nut 1/2" UNC self locking ... 16 20 24 28 689 - 709 not allocated		
690 107108150 691 108081440 692 101108300 693 66467 694 68997 68998 68999 69415 695 67791 696 67790 697 108081440 698 107208150 699 - 709 not allocated	SLIP FLANGE ROTOR 50", 60", 70", 80" MODELS Nut 1/2" UNF self locking ... 4 Spring washer 1/2" dia. ... 4 Bolt 1/2" UNF x 3 3/4" long ... 4 End flange ... 1 Rotor, 50" model ... 1 Rotor, 60" model ... 1 Rotor, 70" model ... 1 Rotor, 80" model ... 1 Centre flange ... 50" 60" 70" 80" Clamp ... 4 5 6 7 Spring washer 1/2" dia. ... 8 10 12 14 Nut 1/2" UNC self locking ... 16 20 24 28 699 - 709 not allocated		

Howard E Series - Parts List
SAFETY GUARDS U.K. ONLY

768	5.77	30
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Illus. No.	Part Number	Description	No. off	Bin No.	Illus. No.	Part Number	Description	No. off	Bin No.
SAFETY GUARDS U.K. ONLY									
710	69918	L.H. guard	1						
711	69919	R.H. guard. 50", 60", and 70" models	1						
711A	69926	R.H. guard. 80" and 90" models	1						
712	69703	Spacer. 50", 60" and 70" models	2						
713	69703	Spacer. 80" and 90" models	1						
713	69921	Spacer	1						
714	69927	Spacer 80" and 90" models	1						
715	305334	Spacer	1						
716	101106160	Bolt $\frac{3}{8}$ " UNF x 2" long	1						
717	101208180	Bolt $\frac{1}{2}$ " UNC x 2 $\frac{1}{4}$ " long	1						
71P	101108160	Bolt $\frac{1}{2}$ " UNF x 2" long. 50", 60" and 70" models	2						
	101108160	Bolt $\frac{1}{2}$ " UNF x 2" long. 80" and 90" models	4						
719	101108180	Bolt $\frac{1}{2}$ " UNF x 2 $\frac{1}{4}$ " long. 50" 60" and 70" models	1						
720	101206120	Bolt $\frac{3}{8}$ " UNC x 1 $\frac{1}{2}$ " long. 80" and 90" models	1						
721	101108200	Bolt $\frac{1}{2}$ " UNF x 2 $\frac{1}{2}$ " long. 50", 60" and 70" models	1						
722	101208160	Bolt $\frac{1}{2}$ " UNC x 2" long 80" and 90" models	1						
723	107206150	Nut $\frac{3}{8}$ " UNC self locking	1						
724	108061140	Spring washer $\frac{3}{8}$ " dia.	1						
725	69920	Guard plate. 50", 60" and 70" models — not required with depth control skid.	1						
	69920	Guard plate. 80" and 90" models	2						
726	729 not allocated								
TRANSFER LIST									
54432		Renolds chain transfer	1						
54433		Morse chain transfer	1						
58169		540 rpm pto Selectatilh label	1						
58170		1000 rpm pto Selectatilh label	1						
58195		Royal Warrant and Queen's Award label	1						
58284		'E' label	1						
58289		Howard Rotavator label	1						
58192		540 rpm pto Selectatilh label — Greek	1						
58173		Warning label — Multi-language	1						
68659		Warning label — Greek	1						
68660		Warning label — Greek	1						
68661		Warning label — Greek	1						
68899		Warning label — Italian	1						
68901		Warning label — Italian	1						
58303		'H' Symbol 5 $\frac{1}{2}$ " - 50", 60", 70" models	1						
58301		'H' Symbol 7 $\frac{1}{2}$ " - 80", 90" models	2						

Howard E Series - Numerical Parts List

Part No.	Illus. or Item No.	Bin No.	Part No.	Illus. or Item No.	Bin No.	Part No.	Illus. or Item No.	Bin No.	Part No.	Illus. or Item No.	Bin No.	Part No.	Illus. or Item No.	Bin No.
3280	625		58303	N.I.		65539	61		68868	222		68826	483	
3275	10	588	58306	322	588	65540	60	68828	68869	221	68828	68828	486	
3448	356	588	58501	269	588	65541	115	68830	68869	221	68830	68830	487	
3678	348	513	58306	322	513	65542	120	68922	67239	36	68922	68922	290	
3678	178	178	58512	269	178	65543	121	68966	67241	55	68966	68966	160	
3701	321	178	58515	269	178	65544	86	68971	67607	389	68971	68971	242	
3703	320	178	59923	263	178	65545	69	68972	67608	406	68972	68972	252	
3703	403	300	59924	262	300	65548	80	68981	67609	406	68981	68981	220	
3706	317	358	59925	266	358	65549	79	68987	67790	696	68987	68987	694	
3900	223	171	59926	266	171	65550	82	68998	67791	695	68998	68998	694	
3901	224	239	59928	648	239	65552	58	68999	67908	185	68999	68999	694	
3903	229	241	59931	651	241	65553	58	69094	67919	220	69094	69094	488	
3912	552	668	59932	651	668	65553	58	69097	67921	220	69097	69097	373	
3913	551	669	59935	642	669	65554	58	69098	67930	251	69098	69098	463	
5807	397	680 A	59936	652	680 A	65555	76	69098	67931	248	69098	69098	457	
5927	291	679 A	59937	652	679 A	65556	54	69124	67932	250	69124	69124	1	
5927	393	683	59942	261	683	65559	56	69125	67938	75	69125	69125	1	
5978	227	683	59948	652	683	65561	545	69173	67939	65	69173	69173	220	
5979	228	683	59952	651	683	65562	555	69174	67941	109	69174	69174	220	
9870	224	683	59955	266	683	65566	553	69203	67954	199	69203	69203	220	
9871	224	683	59961	638	683	65567	73	69307	67963	629	69307	69307	433	
9948	225	658	59964	251	658	65568	73	69366	67988	54	69366	69366	300	
9949	226	658	59967	265	658	65569	73	69367	68070	522	69367	69367	349	
19005	150	601	59968	296	601	65570	73	69404	68071	514	69404	69404	508	
22031	193	592	59987	102	592	65571	72	69415	68072	514	69415	69415	694	
24833	169	600	60483	178	600	65572	73	69417	68074	520	69417	69417	683	
24853	168	600	60485	178	600	65573	73	69562	68208	107	69562	69562	17	
25906	77	590	60486	178	590	65574	73	69567	68226	199	69567	69567	139	
48486	175	67	60487	178	67	65575	70	69608	68227	106	69608	69608	1	
48486	246	202	60495	550	202	65576	71	69672	68228	505	69672	69672	531	
50476	299	202	61042	125	202	65577	554	69673	68235	664	69673	69673	530	
50476	404	202	61043	127	202	65579	199	69674	66235	664	69674	69674	530	
50477	294	202	61045	129	202	65584	177	69675	66235	505	69675	69675	531	
50477	401	202	61045	129	202	65588	139	69698	66423	307	69698	69698	461	
50669	283	202	61051	282	202	65592	135	69700	66219	350	69700	69700	440	
50669	410	109	61051	409	109	65597	123	69703	68771	376	69703	69703	712	
50724	583	109	61079	174	109	65599	105	69717	68772	468	69717	69717	647	
50934	549	109	61079	245	109	65600	104	69740	68772	368	69740	69740	86	
50994	289	109	61189	133	109	65601	103	69755	68772	473	69755	69755	226	
50994	344	586	61814	162	586	65613	521	69765	68773	434	69765	69765	228	
51808	330	586	61816	165	586	65616	518	69808	68774	367	69808	69808	456	
52053	231	587	61817	161	587	65619	525	69808	68774	474	69808	69808	532	
52441	332	215	62069	344	215	65621	405	69904	68775	429	69904	69904	532	
52726	35	160	62099	566	160	65624	390	69907	68778	506	69907	69907	629	
52787	40	588	62503	368	588	65631	213	69915	68781	280	69915	69915	710	
53104	40	588	62503	473	588	65635	209	69918	68782	307	69918	69918	710	
53668	306	588	62833	376	588	65636	210	69919	68802	667	69919	69919	711	
53761	39	588	62833	488	588	65644	621	69920	68806	477	69920	69920	725	
53788	283	384	62843	344	384	65645	620		68807	482				
53788	410	384	64808	66	384	65645	620		68808	482				
54228	292	208	65509	124	208	65646	614		68813	480				
54228	399	209	65515	195	209	65647	615		68815	478				
54252	588	210	65516	83	588	65650	359		68815	478				
54288	507	N.I.	65537	85	N.I.	65651	363		68816	478				
			65538	77		65654	362							

Part No.	Illus. or Item No.	Bin No.	Part No.	Illus. or Item No.	Bin No.	Part No.	Illus. or Item No.	Bin No.	Part No.	Illus. or Item No.	Bin No.	Part No.	Illus. or Item No.	Bin No.	Part No.	Illus. or Item No.	Bin No.
69921	713		101406080	613		107206150	337		108081440	302		108081440	302		209001160	443	
69926	711A		101406080	661		107206150	426		108081440	334		108081440	334		209001260	441	
69927	714		101406095	564		107206150	589		108081440	342		108081440	342		209001270	443	
69939	568		101406100	485		107206150	610		108081440	366		108081440	366		209001960	442	
69940	569		101406100	591		107206150	658		108081440	386		108081440	386		209009190	323	
69941	565		101406100	612		107206150	670		108081440	421		108081440	421		209028350	443	
69942	567		101408060	100		107206150	723		108081440	455		108081440	455		209028360	450	
300299	514		101408060	203		107206155	562		108081440	471		108081440	471		209028370	449	
304047	183		101408090	235		107208050	319		108081440	496		108081440	496		209028380	446	
304052	180		101408100	51		107208150	341		108081440	644		108081440	644		209028500	453	
305026	623		101408100	99		107208150	364		108081440	674		108081440	674		209028520	442	
305096	522		101408100	189		107208150	424		108081440	691		108081440	691		209028800	443	
305330	627		101408100	204		107208150	465		108081440	697		108081440	697		209055520	330	
305334	715		101408120	333		107208150	470		108081440	725		108081440	725		209058220	440	
305335	626		101408120	371		107208150	594		108081445	370		108081445	370		209070170	317	
305336	624		101408120	425		107208150	643		108081445	466		108081445	466		251011103	116	
305357	522		101408180	355		107208150	673		108081445	560		108081445	560		251020065	451	
305383	665		101408180	467		107208150	698		108081450	293		108081450	293		251119062	447	
324545	239		101408180	475		107208250	527		108081450	400		108081450	400		251214103	117	
330289	270		101408120	645		107210020	122		108081610	31		108081610	31		251219011	119	
330290	271		101408125	561		107210135	351		108081610	101		108081610	101		251219012	118	
330291	272		101408160	87		107210135	509		108081610	206		108081610	206		251227082	447	
330358	39		101410120	179		107210150	597		108081610	343		108081610	343		251425071	451	
330359	40		101410120	352		107216020	315		108081610	422		108081610	422		251535115	74	
330380	194		101406150	153		107216020	372		108081610	526		108081610	526		251640091	247	
650184	356		107106150	670A		107216020	462		108081610	528		108081610	528		251937191	64	
650345	38		107106155	337		107216020	640		108081610	595		108081610	595		251942142	198	
650346	37		107107030	130		107612020	170		108081610	677		108081610	677		252047146	321A	
650347	34		107107150	280		108051010	4		108101740	503		108101740	503		252250121	188	
650348	33		107107150	407		108061130	347		108101740	524		108101740	524		252542101	196	
650349	32		107108010	30		108061130	396		108101740	598		108101740	598		252547121	321	
650633	268		107108010	301		108061130	431		108102010	320		108102010	320		253551205	649	
700320	1		107108020	297		108061130	479		108102010	510		108102010	510		262717041	452	
700321	1		107108020	394		108061130	611		108102015	510		108102015	510		262816022	452	
700322	1		107108030	287		108061140	154		108102015	543		108102015	543		263021053	62	
700323	1		107108150	391		108061140	192		108122035	547		108122035	547		263022043	249	
700325	21		107108150	95		108061140	354		108122410	460		108122410	460		263250501	197	
710017	2		107108150	150		108061140	427		108122410	460		108122410	460		263272062	184	
710019	7		107108150	385		108061140	616		108142240	516		108142240	516		264229102	316	
101106120	156		107108150	385		108061140	659		108142610	519		108142610	519		301114750	18	
101106120	672A		107108150	420		108061140	671		108162630	641		108162630	641		307114010	20	
101106125	339		107108150	495		108061140	724		126406080	481		126406080	481		307210045	353	
101108140	152		107108150	580		108061140	338		150216425	374		150216425	374		307512015	30	
101108140	237		107108150	673A		108061145	563		150216505	454		150216505	454		310210605	355	
101108140	392		107108155	284		108061210	137		150216505	454		150216505	454				
101108140	500		107108155	369		108061210	660		202023160	134		202023160	134				
101108140	501		107110055	465		108071240	281		202023900	186		202023900	186				
101108140	676		107110130	541		108071410	131		202023900	240		202023900	240				
101108160	98		107110140	166		108081430	52		202030020	331		202030020	331				
101108160	305		107110150	504		108081430	151		202030020	448		202030020	448				
101108160	423		107110150	523		108081430	238		202030030	375		202030030	375				
101108160	500		107110280	319		108081430	334		202030420	240		202030420	240				
101108160	718		107112050	459		108081430	497		202030420	448		202030420	448				
101108180	499		107112155	546		108081430	581		202030760	164		202030760	164				
101108180	501		107114150	515		108081440	53		203031190	84		203031190	84				
101108180	719		107116150	264		108081440	96		203031200	163		203031200	163				
101108200	498		107206020	353		108081440	158		203032010	108		203032010	108				
101108200	499		107206030	617		108081440	205		203032010	201		203032010	201				
101108200	721		107206130	483		108081440	230										
101108200	286		107206130	623													