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Maintenance Minute

Hydraulic Requirements

Always read the Genesis Safety & Operator's Manual for a specific attachment before attempting to operate the attachment.

Pressure - Most Genesis attachments are set up for base machine full system pressure up to 5,500 psi.

Hydraulic Line Sizes - When Genesis sells an attachment, the sizes of the hydraulic lines going from the main excavator hydraulic system to the attachment should be considered. In some cases, even without pump summation, the delivered oil flow is too great for the existing hydraulic lines. In addition, Genesis typically recommends pump summation to reduce cycle time.

When this occurs, Genesis recommends replacing the lines or adding extra lines to handle the full pump flows provided by the excavator. Hydraulic lines that are too small can cause restriction in the system and excess back-pressure. This restriction will also generate heat. This heat generation will use excavator horsepower that is lost to the attachment and the overall hydraulic system.

The following table represents the maximum flows Genesis recommends for common hose sizes. If the excavator pumps have been summated, the TOTAL flow must be considered. The flows listed below represent the recommended maximum line velocities of 30 feet per second, which is the accepted industry standard.

Line ID	Number of Lines	Maximum GPM
0.75 inch	1	41
0.75 inch	2	83
1.00 inch	1	73
1.00 inch	2	145
1.25 inch	1	115
1.25 inch	2	230
1.50 inch	1	165
1.50 inch	2	331

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Jaw Open and Close Function

The hydraulic requirements for the jaw open and close function of specific Genesis attachments are listed below. Operating an attachment above the recommended flow and/or pressure may create a dangerous situation.

Model	Hydraulic Flow Operating Range GPM	LPM	Hydraulic Pressure
GXT 115 & 225	40 - 60	151 - 227	4,500 - 5,500 psi 310 - 380 Bar
GXT 335	60 - 90	227 - 340	
GXT 445 - 665	70 - 160	264 - 605	
GXT 775 & 775HD	130 - 240	492 - 908	
GXT 995 - 1555	175 - 320	662 - 1,211	
GXT 2055 & 2555	245 - 320	927 - 1,211	
GXP 200	40 - 60	151 - 227	4,500 - 5,500 psi 310 - 380 Bar
GXP 300	60 - 90	227 - 340	
GXP 400	75 - 110	284 - 416	
GXP 440 & 500	85 - 125	322 - 473	
GXP 660 & 700	105 - 155	397 - 587	
GXP 990 & 1000	150 - 190	568 - 719	
GXP 1200	175 - 240	662 - 908	
GXP 1500	180 - 250	681 - 946	
GXP 2500	245 - 320	927 - 1,211	
GRP 480	70 - 160	264 - 605	4,500 - 5,500 psi 310 - 380 Bar
GRB 30	73 - 110	276 - 416	4,500 - 5,500 psi 310 - 380 Bar
GRB 90	130 - 240	492 - 908	4,000 - 5,000 psi 276 - 345 Bar
GVP 07	15 - 25	57 - 95	2,500 - 3,650 psi 172 - 252 Bar
GVP 15	25 - 45	95 - 170	4,000 - 5,500 psi 276 - 380 Bar
M7	13 - 34	50 - 130	3,000 - 3,400 psi 206 - 234 Bar
LXP® 200 & 300	40 - 100	151 - 379	4,500 - 5,500 psi 310 - 380 Bar
LXP® 400 - 800	80 - 200	303 - 757	
GRX 195	40 - 60	151 - 227	4,500 - 5,500 psi 310 - 380 Bar
GRX 295	60 - 100	227 - 379	
GRX 395	80 - 100	303 - 379	
GDT 190	40 - 60	151 - 227	4,500 - 5,500 psi 310 - 380 Bar
GDT 290	60 - 100	227 - 379	
GDT 390	80 - 100	303 - 379	
GDT 590	80 - 200	303 - 757	
GDT 890	130 - 200	492 - 757	
GDR 150	25 - 40	95 - 151	4,500 - 5,500 psi 310 - 380 Bar
GDR 200	40 - 60	151 - 227	
GDR 300	60 - 100	227 - 379	
GDR 400	80 - 100	303 - 379	
GDP 450	50 - 80	189 - 303	4,500 - 5,500 psi 310 - 380 Bar
GDP 650	60 - 120	227 - 454	
GDP 655	80 - 100	303 - 379	
GDP 900	80 - 120	303 - 454	
GDP 1200	85 - 125	322 - 473	
GCP 410	40 - 60	151 - 227	4,500 - 5,500 psi 275 - 380 Bar
GCP 610	60 - 120	227 - 454	

This document is a quick reference only. It does not replace the product safety and operator's manuals, which must be followed by all operators and maintenance personnel.

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Hydraulic Rotation Requirements

The hydraulic requirements for the jaw open and close function of specific Genesis attachments are listed below. Operating an attachment above the recommended flow and/or pressure may create a dangerous situation.

Model	Hydraulic Flow Operating Range GPM	LPM	Hydraulic Pressure
GXT 115 - 335	3 - 5	11 - 19	1,800 - 2,000 psi 125 - 138 Bar
GXT 445 - 665	8 - 12	30 - 45	
GXT 775 & 775HD	8 - 12	30 - 45	
GXT 995	8 - 12	30 - 45	
GXT 1555	13 - 20	49 - 76	2,800 - 3,000 psi 193 - 207 Bar
GXT 2055	25 - 30	95 - 114	
GXT 2555	35 - 50	132 - 189	
GXP 200 & 300	3 - 5	11 - 19	1,500 - 1,700 psi 103 - 117 Bar
GXP 400 - 660	7 - 11	26 - 42	1,800 - 2,000 psi 125 - 138 Bar
GXP 700 - 1000	8 - 12	30 - 45	
GXP 1200 & 1500	12 - 18	45 - 68	
GXP 2500	30 - 45	114 - 170	
GRP 480	8 - 12	30 - 45	1,800 - 2,000 psi 125 - 138 Bar
GRB 30	5 - 7	19 - 26	1,800 - 2,000 psi 125 - 138 Bar
GRB 90	8 - 12	30 - 45	
GVP 07	1 - 3	4 - 11	1,500 - 1,700 psi 103 - 117 Bar
GVP 15	3 - 5	11 - 19	
M7	1 - 3	4 - 11	1,000 - 1,200 psi 69 - 82 Bar
LXP® 200 & 300	3 - 5	11 - 19	1,500 - 1,700 psi 103 - 117 Bar
LXP® 400 & 500	7 - 11	26 - 42	1,800 - 2,000 psi 125 - 138 Bar
LXP® 800	6 - 9	23 - 34	
GRX 195 & 295	3 - 5	11 - 19	1,500 - 1,900 psi 103 - 131 Bar
GRX 395	7 - 11	26 - 42	1,900 - 2,100 psi 131 - 145 Bar
GDT 190 & 290	3 - 5	11 - 19	1,500 - 1,900 psi 103 - 131 Bar
GDT 390 - GDT 890	7 - 11	26 - 42	1,800 - 2,000 psi 125 - 138 Bar
GDR 150 - 300	3 - 5	11 - 19	1,500 - 1,700 psi 103 - 117 Bar
GDR 400	7 - 11	26 - 42	1,900 - 2,100 psi 131 - 145 Bar
GDP 450	3 - 5	11 - 19	1,700 - 1,900 psi 117 - 131 Bar
GDP 655	1 - 3 Radial Piston Motor	4 - 11	2,800 - 3,000 psi 193 - 207 Bar
	3 - 5 Gerotor Motor	11 - 19	1,800 - 2,000 psi 125 - 138 Bar
GDP 650 & 900	7 - 11	26 - 42	1,950 - 2,150 psi 134 - 148 Bar
GDP 1200	8 - 12	30 - 45	
GCP 410	3 - 5	11 - 19	1,500 - 1,700 psi 103 - 117 Bar
GCP 610	7 - 11	26 - 42	1,950 - 2,150 psi 135 - 148 Bar

Shears mounted for demolition/overhead applications should be mounted on a carrier that can provide at least enough oil flow to fall halfway between the minimum and maximum flow requirements of that size shear.

For all attachments used in demolition/overhead applications, the carrier should also have oil flow prioritization capabilities for the bucket, boom, stick, track and swing functions to allow the attachment to release material and the carrier to move away from the structure in case of an unexpected collapse.

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Scrap Grapples

The hydraulic requirements for the Genesis Scrap Grapple Open/Close Tine Circuit are listed below.

Model	Hydraulic Flow Operating Range GPM	LPM	Hydraulic Pressure
GSG 50 & 65	40 - 70	151 - 265	5,000 psi 345 Bar
GSG 75 & 100	50 - 75	189 - 284	
GSG 125 - 250	60 - 100	227 - 379	

The hydraulic requirements for the Genesis Scrap Grapple Rotation are listed below.

Model	Hydraulic Flow Operating Range GPM	LPM	Hydraulic Pressure
GSG 50 - 250	4 - 8	15 - 30	1,200 psi 82 Bar

Handling Grapples

The hydraulic requirements for the Genesis Handling Grapple Open/Close Tine Circuit are listed below.

Model	Hydraulic Flow GPM	LPM	Hydraulic Pressure
GHG 16	16 - 26	60 - 100	3,625 - 5,075 psi 250 - 350 BAR
GHG 20			
GHG 25			
GHG 30	21 - 32	80 - 120	
GHG 40			
GHG 50	26 - 37	100 - 140	
GHG 75	24	91	5,000 psi 345 Bar
GHG 100 & 125	32	121	

The hydraulic requirements for the Genesis Handling Grapple Rotation are listed below.

Model	Hydraulic Flow GPM	LPM	Hydraulic Pressure
GHG 16	5 - 8	20 - 30	1,450 - 2,030 psi 100 - 140 Bar
GHG 20	8 - 13	30 - 50	
GHG 20 Optional Single Motor	5 - 8	20 - 30	
GHG 25	8 - 13	30 - 50	
GHG 25 Optional Single Motor	5 - 8	20 - 30	
GHG 30	8 - 13	30 - 50	
GHG 30 Optional Single Motor	5 - 8	20 - 30	
GHG 40	8 - 13	30 - 50	
GHG 40 Optional Single Motor	5 - 8	20 - 30	
GHG 50	8 - 13	30 - 50	1,450 - 2,320 psi 100 - 160 Bar
GHG 75 - 125	11	42	2,000 psi 138 Bar

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