

CREDENCE A-SERIES HYDRAULIC SPRING RETURN TORQUE. TORQUE AND DIMENSIONAL TECHNICAL DATA - IMPERIAL



ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																				
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000				
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																				
A07H15-SR5	Start	10308															1591	2385	3971	4765	5558	
	Run	4489															1655	2064	2883	3293	3702	
	End	7648															4251	5044	6631	7424	8217	
A07H17-SR5	Start	10308							2258	3654	5050	6446	7843	9239	10635							
	Run	4489							1999	2720	3440	4161	4882	5603	6324							
	End	7648							4917	6314	7710	9106	10502	11898	13294							
A07H02-SR5	Start	10308						5231	7451	9671	11891											
	Run	4489						3534	4680	5826	6972											
	End	7648						7891	10111	12331	14550											
A07H22-SR5	Start	10308			2385	8731	11904															
	Run	4489			2064	5341	6979															
	End	7648			5044	11390	14564															
A07H25-SR5	Start	10308		1492	5426	13292																
	Run	4489		1603	3634	7696																
	End	7648		4152	8085	15952																
A07H03-SR5	Start	10308		8350	14570																	
	Run	4489		5144	8355																	
	End	7648		11010	17229																	
A07H35-SR5	Start	10308		3704																		
	Run	4489		2906																		
	End	7648		6364																		
		OPERATING PRESSURE (PSI)																				
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																				
A07H15-SR4	Start	11982																		2297	3090	3884
	Run	5319																		2054	2463	2873
	End	9293																		4986	5780	6573
A07H17-SR4	Start	11982								1980	3376	4772	6168	7565	8961	10357	13149					
	Run	5319								1890	2611	3332	4052	4773	5494	6215	7657					
	End	9293								4669	6065	7461	8858	10254	11650	13046	15839					
A07H02-SR4	Start	11982					3557	5777	7997	10217	12437											
	Run	5319					2704	3850	4996	6143	7289											
	End	9293					6246	8466	10686	12906	15126											
A07H22-SR4	Start	11982			7057	10230	13403															
	Run	5319			4511	6149	7788															
	End	9293			9746	12919	16092															
A07H25-SR4	Start	11982			3751	11618																
	Run	5319			2805	6866																
	End	9293			6441	14307																
A07H03-SR4	Start	11982			6676	12895																
	Run	5319			4315	7526																
	End	9293			9365	15585																
A07H35-SR4	Start	11982		2030	14875																	
	Run	5319		2077	8548																	
	End	9293		4719	17564																	
		OPERATING PRESSURE (PSI)																				
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																				
A07H15-SR3	Start	14422																			650	1443
	Run	6365																			1417	1827
	End	11036																			4036	4830
A07H17-SR3	Start	14422											2332	3728	5124	6520	7916	10709	12105	13501		
	Run	6365											2286	3006	3727	4448	5169	6611	7332	8052		
	End	11036											5718	7114	8510	9907	11303	14095	15491	16888		
A07H02-SR3	Start	14422					1117	3336	5556	7776	9996	12216	14436									
	Run	6365					1658	2804	3951	5097	6243	7389	8535									
	End	11036					4503	6723	8943	11163	13383	15602	17822									
A07H22-SR3	Start	14422				4616	7789	10962	14136													
	Run	6365				3465	5103	6742	8380													
	End	11036				8003	11176	14349	17522													
A07H25-SR3	Start	14422			1311	9178	13111	17044														
	Run	6365			1759	5820	7851	9882														
	End	11036			4697	12564	16498	20431														
A07H03-SR3	Start	14422		4235	10455	22893																
	Run	6365		3269	6480	12902																
	End	11036		7622	13841	26280																
A07H35-SR3	Start	14422		12434	21386																	
	Run	6365		7502	12124																	
	End	11036		15821	24773																	
		OPERATING PRESSURE (PSI)																				
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																				
A07H17-SR2	Start	17083												1067	2463	3860	5256	8048	9444	10840		
	Run	7478												1893	2614	3335	4055	5497	6218	6939		
	End	12829												5321	6717	8113	9509	12302	13698	15094		
A07H02-SR2	Start	17083							2896	5116	7335	9555	11775	13995	16215	18435						
	Run	7478							2837	3983	5129	6275	7422	8568	9714	10860						
	End	12829							7149	9369	11589	13809	16029	18249	20469	22688						
A07H22-SR2	Start	17083			1956	5129	8302	11475	14648	17821												
	Run	7478			2352	3990	5628	7267	8905	10543												
	End	12829			6209	9382	12556	15729	18902	22075												
A07H25-SR2	Start	17083			6517	10450	14384	18317														
	Run	7478			4707	6738	8768	10799														
	End	12829			10771	14704	18637	22571														
A07H03-SR2	Start	17083		1575	7794	20233																
	Run	7478		2155	5366	11788																
	End	12829		5829	12048	24487																
A07H35-SR2	Start	17083		9773	18726																	
	Run	7478		6388	11010																	
	End	12829		14027	22979																	

ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																							
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000							
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																							
A07H17-SR1	Start	19800																1142	2538	5331	6727	8123			
	Run	8575																2238	2959	4400	5121	5842			
	End	14499																6443	7840	10632	12028	13424			
A07H02-SR1	Start	19800																2398	4618	6838	9058	11278	13498	15717	20157
	Run	8575																2886	4033	5179	6325	7471	8617	9763	12055
	End	14499																7700	9919	12139	14359	16579	18799	21019	25458
A07H22-SR1	Start	19800																2411	5585	8758	11931	15104	18277	21450	
	Run	8575																2893	4532	6170	7808	9446	11085	12723	
	End	14499																7713	10886	14059	17232	20405	23578	26751	
A07H25-SR1	Start	19800																3800	7733	11666	15600	19533	23466		
	Run	8575																3610	5641	7672	9702	11733	13764		
	End	14499																9101	13034	16968	20901	24834	28768		
A07H03-SR1	Start	19800																5077	17516	23735					
	Run	8575																4269	10691	13903					
	End	14499																10378	22817	29036					
A07H35-SR1	Start	19800																7056	16008	33913					
	Run	8575																5291	9913	19157					
	End	14499																12357	21310	39214					
A08H17-SR5	Start	15831																							
	Run	7120																							
	End	12650																							
A08H02-SR5	Start	15831																							
	Run	7120																							
	End	12650																							
A08H22-SR5	Start	15831																							
	Run	7120																							
	End	12650																							
A08H25-SR5	Start	15831																							
	Run	7120																							
	End	12650																							
A08H03-SR5	Start	15831																							
	Run	7120																							
	End	12650																							
A08H35-SR5	Start	15831																							
	Run	7120																							
	End	12650																							
A08H04-SR5	Start	15831																							
	Run	7120																							
	End	12650																							
A08H17-SR4	Start	17336																							
	Run	7732																							
	End	13594																							
A08H02-SR4	Start	17336																							
	Run	7732																							
	End	13594																							
A08H22-SR4	Start	17336																							
	Run	7732																							
	End	13594																							
A08H25-SR4	Start	17336																							
	Run	7732																							
	End	13594																							
A08H03-SR4	Start	17336																							
	Run	7732																							
	End	13594																							
A08H35-SR4	Start	17336																							
	Run	7732																							
	End	13594																							
A08H04-SR4	Start	17336																							
	Run	7732																							
	End	13594																							
A08H02-SR3	Start	22421																							
	Run	9994																							
	End	17556																							
A08H22-SR3	Start	22421																							
	Run	9994																							
	End	17556																							
A08H25-SR3	Start	22421																							
	Run	9994																							
	End	17556																							
A08H03-SR3	Start	22421																							
	Run	9994																							
	End	17556																							
A08H35-SR3	Start	22421																							
	Run	9994																							
	End	17556																							
A08H04-SR3	Start	22421																							
	Run	9994																							
	End	17556																							

ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
A08H02-SR2	Start	26469																
	Run	11716																
	End	20395																
A08H22-SR2	Start	26469																
	Run	11716																
	End	20395																
A08H25-SR2	Start	26469																
	Run	11716																
	End	20395																
A08H03-SR2	Start	26469																
	Run	11716																
	End	20395																
A08H35-SR2	Start	26469																
	Run	11716																
	End	20395																
A08H04-SR2	Start	26469																
	Run	11716																
	End	20395																
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
A08H02-SR1	Start	29518																
	Run	12811																
	End	21724																
A08H22-SR1	Start	29518																
	Run	12811																
	End	21724																
A08H25-SR1	Start	29518																
	Run	12811																
	End	21724																
A08H03-SR1	Start	29518																
	Run	12811																
	End	21724																
A08H35-SR1	Start	29518																
	Run	12811																
	End	21724																
A08H04-SR1	Start	29518																
	Run	12811																
	End	21724																
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
A09H02-SR5	Start	28644																
	Run	12478																
	End	21267																
A09H22-SR5	Start	28644																
	Run	12478																
	End	21267																
A09H25-SR5	Start	28644																
	Run	12478																
	End	21267																
A09H03-SR5	Start	28644																
	Run	12478																
	End	21267																
A09H35-SR5	Start	28644																
	Run	12478																
	End	21267																
A09H04-SR5	Start	28644																
	Run	12478																
	End	21267																
A09H45-SR5	Start	28644																
	Run	12478																
	End	21267																
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
A09H22-SR4	Start	37256																
	Run	16360																
	End	28182																
A09H25-SR4	Start	37256																
	Run	16360																
	End	28182																
A09H03-SR4	Start	37256																
	Run	16360																
	End	28182																
A09H35-SR4	Start	37256																
	Run	16360																
	End	28182																
A09H04-SR4	Start	37256																
	Run	16360																
	End	28182																
A09H45-SR4	Start	37256																
	Run	16360																
	End	28182																

ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A09H22-SR3	Start	46537											3440	7010	10579	17719	21289	24858	
	Run	20430											5373	7217	9060	12746	14589	16432	
	End	35182											14795	18364	21934	29074	32643	36213	
A09H25-SR3	Start	46537								5274	9984	14695	19405	24115	28825	38245	42955	47665	
	Run	20430								6321	8752	11184	13616	16048	18480	23344	25775	28207	
	End	35182								16629	21339	26049	30759	35469	40180	49600	54310	59020	
A09H03-SR3	Start	46537			2298	10437	18576	26715	34854	42993	51132								
	Run	20430			4784	8986	13188	17390	21593	25795	29997								
	End	35182			13652	21791	29930	38069	46208	54348	62487								
A09H35-SR3	Start	46537			2417	26893	39132	51370											
	Run	20430			4845	17483	23801	30120											
	End	35182			13771	38248	50486	62725											
A09H04-SR3	Start	46537		5671	23074	57879													
	Run	20430		6525	15510	33480													
	End	35182		17026	34428	69233													
A09H45-SR3	Start	46537		18165	39732														
	Run	20430		12976	24111														
	End	35182		29520	51087														
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A09H22-SR2	Start	56078													1038	8178	11747	15317	
	Run	24548													4941	8628	10471	12314	
	End	42113													15003	22142	25712	29282	
A09H25-SR2	Start	56078										5153	9863	14573	19283	28704	33414	38124	
	Run	24548										7066	9498	11930	14362	19225	21657	24089	
	End	42113										19118	23828	28538	33248	42669	47379	52089	
A09H03-SR2	Start	56078				9034	17173	25312	33451	41591	49730	57869							
	Run	24548				9070	13272	17474	21677	25879	30081	34283							
	End	42113				22999	31138	39277	47416	55555	63694	71834							
A09H35-SR2	Start	56078			17352	29590	41829	54067	66305										
	Run	24548			13364	19683	26002	32320	38639										
	End	42113			31317	43555	55793	68032	80270										
A09H04-SR2	Start	56078		13532	48337	65740													
	Run	24548		11392	29362	38347													
	End	42113		27497	62302	79705													
A09H45-SR2	Start	56078		8624	30191	73326													
	Run	24548		8858	19993	42264													
	End	42113		22589	44156	87291													
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A09H25-SR1	Start	67734													2917	7627	17048	21758	26468
	Run	29206													7271	9703	14567	16999	19431
	End	49091													21561	26271	35691	40401	45111
A09H03-SR1	Start	67734					5517	13656	21795	29934	38073	46213	54352	62491	78769				
	Run	29206					8614	12816	17018	21220	25423	29625	33827	38029	46434				
	End	49091					24161	32300	40439	48578	56717	64856	72995	81134	97412				
A09H35-SR1	Start	67734			5696	17934	30172	42411	54649	66887	79126								
	Run	29206			8706	15025	21343	27662	33981	40299	46618								
	End	49091			24339	36577	48816	61054	73292	85531	97769								
A09H04-SR1	Start	67734		1876	36681	54084	71486												
	Run	29206		6734	24704	33689	42674												
	End	49091		20519	55325	72727	90130												
A09H45-SR1	Start	67734		18535	61670	83237													
	Run	29206		15335	37605	48741													
	End	49091		37178	80313	101880													
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A10H25-SR5	Start	66808											6355	11581	16807	27259	32485	37711	
	Run	28440											9335	12033	14731	20127	22825	25524	
	End	46952											26211	31437	36663	47115	52341	57567	
A10H03-SR5	Start	66808				8527	17944	27361	36778	46195	55611	65028	74445						
	Run	28440				10456	15318	20180	25042	29904	34766	39628	44490						
	End	46952				28383	37800	47217	56634	66051	75468	84885	94301						
A10H35-SR5	Start	66808			19755	34182	48609	63036	77463										
	Run	28440			16253	23701	31150	38599	46048										
	End	46952			39611	54038	68465	82892	97319										
A10H04-SR5	Start	66808		16148	57626	78365													
	Run	28440		14390	35806	46513													
	End	46952		36004	77482	98221													
A10H45-SR5	Start	66808		10679	36509	88167													
	Run	28440		11567	24903	51574													
	End	46952		30536	56365	108023													
A10H05-SR5	Start	66808		36312	70686														
	Run	28440		24802	42549														
	End	46952		56168	90542														
A10H06-SR5	Start	66808		13077	86305														
	Run	28440		13722	50613														
	End	46952		32933	106162														

ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A10H25-SR4	Start	85848															8219	13445	18671
	Run	36288															12279	14977	17675
	End	59304															34763	39989	45215
A10H03-SR4	Start	85848							8321	17738	27154	36571	45988	55405	64822	83656	93073		
	Run	36288							12332	17194	22056	26918	31780	36642	41504	51228	56090		
	End	59304							34865	44281	53698	63115	72532	81949	91366	110200	119617		
A10H35-SR4	Start	85848				15142	29569	43996	58423	72850	87277								
	Run	36288				15853	23302	30751	38200	45648	53097								
	End	59304				41685	56113	70540	84967	99394	113821								
A10H04-SR4	Start	85848			38586	59325	80064	100803											
	Run	36288			27958	38665	49373	60080											
	End	59304			65129	85868	106607	127346											
A10H45-SR4	Start	85848		17469	69127	94956													
	Run	36288		17055	43726	57062													
	End	59304		44012	95671	121500													
A10H05-SR4	Start	85848	17272	51646	120393														
	Run	36288	16953	34701	70195														
	End	59304	43816	78190	146937														
A10H06-SR4	Start	85848	67265	118303															
	Run	36288	42765	69116															
	End	59304	93809	144847															
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A10H03-SR3	Start	103228									9775	19192	28609	38026	47442	66276	75693	85110	
	Run	43698									14646	19508	24370	29232	34094	43818	48680	53542	
	End	71563									41440	50857	60274	69691	79108	97941	107358	116775	
A10H35-SR3	Start	103228				12189	26616	41043	55470	69898	84325	98752	113179						
	Run	43698				15893	23341	30790	38239	45688	53137	60585	68034						
	End	71563				43854	58281	72709	87136	101563	115990	130417	144844						
A10H04-SR3	Start	103228		21206	41945	62684	83423	104162	124901										
	Run	43698		20548	31256	41963	52671	63379	74086										
	End	71563		52871	73610	94349	115088	135827	156566										
A10H45-SR3	Start	103228	89	51747	77577	103406	129235												
	Run	43698	9645	36317	49652	62988	76324												
	End	71563	31754	83413	109242	135071	160900												
A10H05-SR3	Start	103228		34266	103013	137387													
	Run	43698		27291	62785	80533													
	End	71563		65931	134678	169052													
A10H06-SR3	Start	103228	49886	100924															
	Run	43698	35356	61707															
	End	71563	81551	132589															
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A10H03-SR2	Start	117314									5106	14523	23940	33357	52190	61607	71024		
	Run	50370									12836	17698	22560	27422	37146	42008	46870		
	End	84165									38255	47672	57089	66505	85339	94756	104173		
A10H35-SR2	Start	117314				12530	26957	41385	55812	70239	84666	99093	113520						
	Run	50370				16669	24118	31567	39016	46465	53913	61362	68811						
	End	84165				45679	60106	74533	88961	103388	117815	132242	146669						
A10H04-SR2	Start	117314		7120	27859	48598	69337	90076	110815	131554									
	Run	50370		13876	24584	35291	45999	56707	67414	78122									
	End	84165		40269	61008	81747	102486	123225	143964	164703									
A10H45-SR2	Start	117314		37661	63491	89320	115149												
	Run	50370		29645	42980	56316	69652												
	End	84165		70810	96640	122469	148298												
A10H05-SR2	Start	117314		20180	88927	123301													
	Run	50370		20619	56113	73861													
	End	84165		53329	122076	156450													
A10H06-SR2	Start	117314	35800	86838															
	Run	50370	28684	55035															
	End	84165	68949	119987															
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A10H03-SR1	Start	151672														17832	27249	36666	
	Run	62038														25477	30339	35201	
	End	96481														73023	82440	91857	
A10H35-SR1	Start	151672							7026	21454	35881	50308	64735	79162	108016	122443	136871		
	Run	62038							19898	27347	34796	42245	49694	57142	72040	79489	86938		
	End	96481							62217	76644	91072	105499	119926	134353	163207	177634	192062		
A10H04-SR1	Start	151672				14240	34979	55718	76457	97196	117935	138674	159413						
	Run	62038				23623	34330	45038	55746	66453	77161	87869	98576						
	End	96481				69431	90170	110909	131648	152387	173126	193865	214604						
A10H45-SR1	Start	151672				29132	54962	80791	106620	132449	158279								
	Run	62038				31312	44648	57983	71319	84655	97991								
	End	96481				84323	110153	135982	161811	187640	213470								
A10H05-SR1	Start	151672			54569	88942	123316	157690											
	Run	62038			44445	62192	79939	97686											
	End	96481			109760	144133	178507	212881											
A10H06-SR1	Start	151672	1442	52480	154555														
	Run	62038	17015	43366	96068														
	End	96481	56633	107671	209746														

ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																		
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000		
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																		
A11H35-SR5	Start	136186							12939	29508	46078	62647	79217	95786	112356	128925	162064			
	Run	53194							23799	32354	40909	49464	58019	66574	75129	83683	100793			
	End	76592							72533	89102	105672	122241	138811	155380	171949	188519	221658			
A11H04-SR5	Start	136186			11430	36033	60636	85239	109841	134444	159047									
	Run	53194			23020	35723	48425	61128	73830	86533	99235									
	End	76592			71024	95627	120230	144832	169435	194038	218641									
A11H45-SR5	Start	136186			50301	81382	112464	143545												
	Run	53194			43090	59137	75184	91232												
	End	76592			109895	140976	172057	203139												
A11H05-SR5	Start	136186			31637	115548	157504													
	Run	53194			33453	76777	98439													
	End	76592			91231	175142	217098													
A11H06-SR5	Start	136186			53309	116474	242804													
	Run	53194			44643	77255	142480													
	End	76592			112903	176068	302398													
A11H07-SR5	Start	136186			128505	216736														
	Run	53194			83467	129021														
	End	76592			188099	276330														
A11H08-SR5	Start	136186			47183	215270														
	Run	53194			43583	128264														
	End	76592			106777	274864														
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																		
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000		
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																		
A11H35-SR4	Start	179263									19570	36139	52709	69278	85848	118986	135556	152125		
	Run	71343									31316	39870	48425	56980	65535	82645	91200	99754		
	End	106108									92725	109294	125864	142433	159003	192142	208711	225280		
A11H04-SR4	Start	179263						17558	42161	66764	91367	115969	140572	165175	189777					
	Run	71343						30277	42980	55682	68385	81087	93789	106492	119194					
	End	106108						90714	115316	139919	164522	189124	213727	238330	262933					
A11H45-SR4	Start	179263						38305	69386	100467	131548	162630	193711							
	Run	71343						40989	57036	73083	89131	105178	121225							
	End	106108						111460	142541	173622	204704	235785	266866							
A11H05-SR4	Start	179263						72471	114427	156383	198338									
	Run	71343						58629	80291	101953	123614									
	End	106108						145626	187582	229538	271493									
A11H06-SR4	Start	179263						10232	73397	199727										
	Run	71343						26494	59107	124331										
	End	106108						83387	146552	272882										
A11H07-SR4	Start	179263						85428	173658											
	Run	71343						65318	110872											
	End	106108						158583	246814											
A11H08-SR4	Start	179263						172193												
	Run	71343						110116												
	End	106108						245348												
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																		
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000		
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																		
A11H35-SR3	Start	233003													15538	32108	65246	81816	98385	
	Run	92097													36226	44780	61890	70445	79000	
	End	135386													113155	129725	162863	179433	196002	
A11H04-SR3	Start	233003								13024	37627	62229	86832	111435	136037	160640	209846	234448		
	Run	92097								34928	47630	60332	73035	85737	98440	111142	136547	149250		
	End	135386								110641	135244	159846	184449	209052	233654	258257	307463	332065		
A11H45-SR3	Start	233003								15646	46727	77808	108890	139971	171052	202133	233214			
	Run	92097								36281	52329	68376	84423	100471	116518	132565	148613			
	End	135386								113263	144344	175425	206507	237588	268669	299750	330831			
A11H05-SR3	Start	233003								18731	60687	102643	144598	186554	228510					
	Run	92097								37874	59536	81198	102860	124522	146184					
	End	135386								116348	158304	200260	242215	284171	326127					
A11H06-SR3	Start	233003								19657	145987	209151	272316							
	Run	92097								38352	103577	136189	168801							
	End	135386								117274	243604	306768	369933							
A11H07-SR3	Start	233003								31688	119918	296379								
	Run	92097								44564	90118	181225								
	End	135386								129305	217535	393996								
A11H08-SR3	Start	233003								118453	235605									
	Run	92097								89361	149847									
	End	135386								216070	333222									
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																		
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000		
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																		
A11H35-SR2	Start	264529																33721	50290	66860
	Run	107439																46549	55103	63658
	End	165227																133023	149592	166162
A11H04-SR2	Start	264529																		
	Run	107439																		
	End	165227																		
A11H45-SR2	Start	264529																		
	Run	107439																		
	End	165227																		
A11H05-SR2	Start	264529																		
	Run	107439																		
	End	165227																		
A11H06-SR2	Start	264529																		
	Run	107439																		
	End	165227																		
A11H07-SR2	Start	264529																		
	Run	107439																		
	End	165227																		
A11H08-SR2	Start	264529																		
	Run	107439																		
	End	165227																		

ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A12H04-SR1	Start	505468																28344	56439
	Run	200832																74778	89283
	End	297858																235953	264049
A12H45-SR1	Start	505468													69925	141849	177811	213773	
	Run	200832													96246	133381	151948	170516	
	End	297858													277534	349458	385421	421383	
A12H05-SR1	Start	505468								35367	84534	133701	182868	232035	281202	379535	428702	477869	
	Run	200832								78404	103789	129174	154559	179944	205329	256100	281485	306870	
	End	297858								242977	292144	341311	390478	439645	488811	587145	636312	685479	
A12H06-SR1	Start	505468					18978	93899	168820	243741	318662	393583	468504	543425					
	Run	200832					69942	108624	147306	185988	224670	263352	302034	340716					
	End	297858					226588	301509	376430	451351	526272	601193	676114	751035					
A12H07-SR1	Start	505468				126677	232035	337392	442750	548107									
	Run	200832				125548	179944	234341	288737	343134									
	End	297858				334287	439645	545002	650360	755717									
A12H08-SR1	Start	505468				56439	337392	477869	618346										
	Run	200832				89283	234341	306870	379398										
	End	297858				264049	545002	685479	825956										
A12H09-SR1	Start	505468				35367	215646	576203	756481										
	Run	200832				78404	171483	357640	450718										
	End	297858				242977	423256	783813	964091										
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A13H05-SR5	Start	365438					14805	69125	123446	177766	232087	286407	340727	395048					
	Run	133209					63113	91158	119204	147250	175296	203342	231388	259434					
	End	167396					212847	267168	321488	375808	430129	484449	538770	593090					
A13H06-SR5	Start	365438				146823	232200	317576	402953										
	Run	133209				131274	175354	219435	263515										
	End	167396				344865	430242	515619	600995										
A13H07-SR5	Start	365438				122881	367041												
	Run	133209				118913	244973												
	End	167396				320923	565083												
A13H08-SR5	Start	365438				127850	292279												
	Run	133209				121478	206374												
	End	167396				325892	490322												
A13H09-SR5	Start	365438				271839	484264												
	Run	133209				195820	305497												
	End	167396				469881	682307												
A13H10-SR5	Start	365438				51017	432767												
	Run	133209				86587	278908												
	End	167396				249059	630810												
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A13H05-SR4	Start	248239				77684	132004	186325	240645	294966									
	Run	98811				69464	97510	125556	153601	181647									
	End	147007				178916	233236	287556	341877	396197									
A13H06-SR4	Start	248239				7892	93269	264022											
	Run	98811				33430	77510	165671											
	End	147007				109123	194500	365254											
A13H07-SR4	Start	248239				118001	240081												
	Run	98811				90280	153310												
	End	147007				219232	341312												
A13H08-SR4	Start	248239				245050													
	Run	98811				155875													
	End	147007				346281													
A13H09-SR4	Start	248239				84254	389038												
	Run	98811				76671	230217												
	End	147007				185485	490270												
A13H10-SR4	Start	248239				168216													
	Run	98811				120984													
	End	147007				269448													
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A13H05-SR3	Start	613677																	
	Run	232020																	
	End	314403																	
A13H06-SR3	Start	613677																	
	Run	232020																	
	End	314403																	
A13H07-SR3	Start	613677																	
	Run	232020																	
	End	314403																	
A13H08-SR3	Start	613677																	
	Run	232020																	
	End	314403																	
A13H09-SR3	Start	613677																	
	Run	232020																	
	End	314403																	
A13H10-SR3	Start	613677																	
	Run	232020																	
	End	314403																	

ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
A13H05-SR2	Start	567899																
	Run	245173								29626	83946	138267	192587	246908	301228	409869	464189	518510
	End	412794								63331	91377	119423	147469	175515	203561	259653	287698	315744
A13H06-SR2	Start	567899																
	Run	245173								184731	239051	293372	347692	402013	456333	564974	619294	673615
	End	412794								184844	270221	355598	440974	526351	611728	697105		
A13H07-SR2	Start	567899				164580	286660	408740	530819									
	Run	245173				133009	196039	259070	322100									
	End	412794				319685	441765	563845	685925									
A13H08-SR2	Start	567899				89819	418678	583107										
	Run	245173				94409	264201	349096										
	End	412794				244924	573783	738212										
A13H09-SR2	Start	567899				69378	281804	706655										
	Run	245173				83856	193532	412885										
	End	412794				224483	436909	861760										
A13H10-SR2	Start	567899				230307	496375											
	Run	245173				166944	304316											
	End	412794				385412	651480											
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
A13H05-SR1	Start	668519																
	Run	288376																
	End	484985																
A13H06-SR1	Start	668519																
	Run	288376								14495	99872	185249	270626	356002	441379	526756	612133	697510
	End	484985								64267	108348	152428	196508	240589	284669	328750	372830	416911
A13H07-SR1	Start	668519																
	Run	288376								198029	283406	368783	454160	539536	624913	710290	795667	881044
	End	484985								63960	186039	308119	430199	552279	674359	796438		
A13H08-SR1	Start	668519																
	Run	288376								89806	152836	215867	278897	341927	404958	467988		
	End	484985								247494	369573	491653	613733	735813	857893	979972		
A13H09-SR1	Start	668519																
	Run	288376								318057	482487	646916	811345					
	End	484985								220998	305893	390789	475684					
A13H10-SR1	Start	668519																
	Run	288376								181183	606035	818460						
	End	484985								150329	369682	479358						
A14H06-SR5	Start	472469																
	Run	194282								130101	184165	238229	292292	346356				
	End	304658								323620	428333	533046	637759	742472				
A14H07-SR5	Start	472469																
	Run	194282								139745	445852	598906						
	End	304658								121807	279852	358874						
A14H08-SR5	Start	472469																
	Run	194282								307556	613663	766717						
	End	304658								154024	362855	780517						
A14H09-SR5	Start	472469																
	Run	194282								129179	237000	452641						
	End	304658								321835	530667	948329						
A14H10-SR5	Start	472469																
	Run	194282								343668	615713							
	End	304658								227093	367552							
A14H12-SR5	Start	472469																
	Run	194282								511479	783525							
	End	304658								63926	555622							
A14H14-SR5	Start	472469																
	Run	194282								88816	336526							
	End	304658								231738	723434							
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
A14H06-SR3	Start	1082063																
	Run	429830																
	End	637259																
A14H07-SR3	Start	1082063																
	Run	429830																
	End	637259																
A14H08-SR3	Start	1082063																
	Run	429830																
	End	637259																
A14H09-SR3	Start	1082063																
	Run	429830																
	End	637259																
A14H10-SR3	Start	1082063																
	Run	429830																
	End	637259																
A14H12-SR3	Start	1082063																
	Run	429830																
	End	637259																
A14H14-SR3	Start	1082063																
	Run	429830																
	End	637259																

ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																
A14H06-SR2	Start	1470146												100549	205262	414688	519401	624114
	Run	591105												219852	273916	382043	436107	490171
	End	894274												676421	781134	990560	1095273	1199986
A14H07-SR2	Start	1470146							60389	213443	366496	519550	672604	825657	978711	1284818	1437871	
	Run	591105							199117	278139	357162	436184	515206	594228	673250	831295	910317	
	End	894274							636262	789315	942369	1095422	1248476	1401529	1554583	1860690	2013743	
A14H08-SR2	Start	1470146						200502	409334	618165	826996	1035827	1244658	1453489				
	Run	591105						271458	379279	487099	594919	702740	810560	918381				
	End	894274						776375	985206	1194037	1402868	1611699	1820530	2029361				
A14H09-SR2	Start	1470146			162128	434173	706219	978264	1250310	1522356								
	Run	591105			251645	392103	532562	673020	813478	953937								
	End	894274			738000	1010045	1282091	1554137	1826182	2098228								
A14H10-SR2	Start	1470146			586037	928734	1271431	1614128										
	Run	591105			470511	647447	824383	1001319										
	End	894274			1161909	1504606	1847303	2190000										
A14H12-SR2	Start	1470146	48788	555099	1567721													
	Run	591105	193127	454538	977359													
	End	894274	624660	1130971	2143594													
A14H14-SR2	Start	1470146	628874	1328547														
	Run	591105	492628	853873														
	End	894274	1204746	1904420														
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																
A14H06-SR1	Start	1735288														149546	254259	358972
	Run	687188														285960	340024	394088
	End	1013465														871370	976083	1080796
A14H07-SR1	Start	1735288								101354	254408	407461	560515	713568	1019676	1172729	1325783	
	Run	687188								261078	340101	419123	498145	577167	735212	814234	893256	
	End	1013465								1613824	1885870	2157915	2429961	2702007	3246098	3518144	3790189	
A14H08-SR1	Start	1735288						144191	353022	561854	770685	979516	1188347	1397178	1606009			
	Run	687188						283195	391016	498836	606657	714477	822297	930118	1037938			
	End	1013465						866015	1074846	1283677	1492508	1701340	1910171	2119002	2327833			
A14H09-SR1	Start	1735288				169031	441077	713122	985168	1257213	1529259	1801305						
	Run	687188				296020	436478	576937	717395	857853	998312	1138770						
	End	1013465				890855	1162900	1434946	1706992	1979037	2251083	2523129						
A14H10-SR1	Start	1735288			320895	663592	1006289	1348986	1691683									
	Run	687188			1368995	1711692	2054389	2397086	2739783									
	End	1013465			1042718	1385416	1728113	2070810	2413507									
A14H12-SR1	Start	1735288				289957	1302579	1808890										
	Run	687188				358455	881276	1142687										
	End	1013465				1011781	2024403	2530714										
A14H14-SR1	Start	1735288				363732	1063405											
	Run	687188				1411832	2111505											
	End	1013465				1085556	1785229											
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																
A15H08-SR5	Start	1098280				335707	574705	813703	1052700	1291698								
	Run	422152				318222	441618	565013	688409	811804								
	End	590327				843660	1082658	1321655	1560653	1799651								
A15H09-SR5	Start	1098280			176126	813328	1131929											
	Run	422152			235829	564820	729315											
	End	590327			684078	1321281	1639882											
A15H10-SR5	Start	1098280	124430	532000	1347140													
	Run	422152	209139	419569	840429													
	End	590327	632383	1039953	1855093													
A15H11-SR5	Start	1098280				742528	1356130											
	Run	422152				528265	845071											
	End	590327				1250481	1864083											
A15H12-SR5	Start	1098280	243261	1473007														
	Run	422152	285884	905415														
	End	590327	751214	1980960														
A15H14-SR5	Start	1098280	683015	2315867														
	Run	422152	517976	1340587														
	End	590327	1190967	2823820														
A15H16-SR5	Start	1098280																
	Run	422152																
	End	590327																
ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																
A15H06-SR4	Start	2204833								185145	424143	663140	902138	1141136	1380134	1619132	2097127	2336125
	Run	841877								392079	515475	638870	762266	885661	1009057	1132453	1379244	1502639
	End	1162675								1227303	1466301	1705299	1944297	2183294	2422292	2661290	3139285	3378283
A15H07-SR4	Start	2204833						343977	662579	981180	1299781	1618382	1936984	2255585				
	Run	841877						474085	638580	803075	967571	1132066	1296561	1461056				
	End	1162675						1386136	1704737	2023338	2341939	2660541	2979142	3297743				
A15H08-SR4	Start	2204833			240586	648156	1055726	1463296	1870866	2278436								
	Run	841877			420704	631134	841564	1051994	1262424	1472854								
	End	1162675			1282745	1690315	2097884	2505454	2913024	3320594								
A15H09-SR4	Start	2204833			249577	1476782	2090384	2703987										
	Run	841877			425346	1058957	1375762	1692568										
	End	1162675			1291735	2518940	3132543	3746145										
A15H10-SR4	Start	2204833	366454	1223549	2937740													
	Run	841877	485689	928212	1813256													
	End	1162675	1408612	2265707	3979898													
A15H12-SR4	Start	2204833	1209314	2347363														
	Run	841877	920862	1508442														
	End	1162675	2251472	3389521														
A15H14-SR4	Start	2204833	74848	2164556	3621019													
	Run	841877	361288	1414058	2166036													
	End	1162675	1117007	3206714	4663177													

ACTUATOR MODEL NO.	SPRING TORQUE START/MINIMUM/END (lbs-in)	OPERATING PRESSURE (PSI)																	
		400	750	1000	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	4750	5000	
		HYDRAULIC TORQUE OUTPUTS - END/ MINIMUM (RUN) /START IN (lbs-in)																	
A15H06-SR3	Start	2732323																	
	Run	1038920										135650	374648	613646	852644	1091641	1569637	1808635	2047632
	End	1423358										441827	565223	688618	812014	935409	1182200	1305596	1428992
A15H07-SR3	Start	2732323																	
	Run	1038920									453690	772291	1090892	1409493	1728095	2046696	2365297		
	End	1423358									606032	770527	935022	1099518	1264013	1428508	1593003		
A15H08-SR3	Start	2732323																	
	Run	1038920									120666	528236	935806	1343376	1750946	2158515	2566085		
	End	1423358									434091	644521	854951	1065381	1275811	1486241	1696671		
A15H09-SR3	Start	2732323																	
	Run	1038920									1429632	1837201	2244771	2652341	3059911	3467481	3875051		
	End	1423358									949292	1562894	2176496	2790099					
A15H10-SR3	Start	2732323																	
	Run	1038920									861913	1178719	1495525	1812330					
	End	1423358									2258257	2871860	3485462	4099064					
A15H12-SR3	Start	2732323																	
	Run	1038920									696059	2410250	3267345						
	End	1423358									731168	1616213	2058735						
A15H14-SR3	Start	2732323																	
	Run	1038920									681824	1819873	4095971						
	End	1423358									723819	1311398	2486558						
A15H06-SR2	Start	3303112																	
	Run	1232872																	
	End	1753001																	
A15H07-SR2	Start	3303112																	
	Run	1232872																	
	End	1753001																	
A15H08-SR2	Start	3303112																	
	Run	1232872																	
	End	1753001																	
A15H09-SR2	Start	3303112																	
	Run	1232872																	
	End	1753001																	
A15H10-SR2	Start	3303112																	
	Run	1232872																	
	End	1753001																	
A15H12-SR2	Start	3303112																	
	Run	1232872																	
	End	1753001																	
A15H14-SR2	Start	3303112																	
	Run	1232872																	
	End	1753001																	