



Technical Service Information

GM STEYR AWD NOISE & GEAR FAILURE

COMPLAINT: There is gear noise coming from the final drive area when the vehicle is driven.

CAUSE: Excessive final drive clearance due to worn parts as seen in Figure 1.

CORRECTION: Replace the selective washer located as shown in Figure 2. When replacing any of the parts shown in Figure 2, make certain the toothed components match the original components in order to avoid gear ratio errors. Also be aware that the AWD park gear is thinner than the FWD gear.

In order to choose the correct selective washer, an all wheel drive end play procedure must be performed. Figures 3 through 12 show this procedure. The end play tool shown can be obtained from Trans Tool, 800-531-5978. Once the end play procedure is completed, choose the correct selective washer from the chart in Figure 13. Then recheck clearance which should be .020" - .024".

SERVICE INFORMATION:

Sun Gear To Park Gear Selective Washer.....See Chart In Figure 13
Oil Dam.....12571292

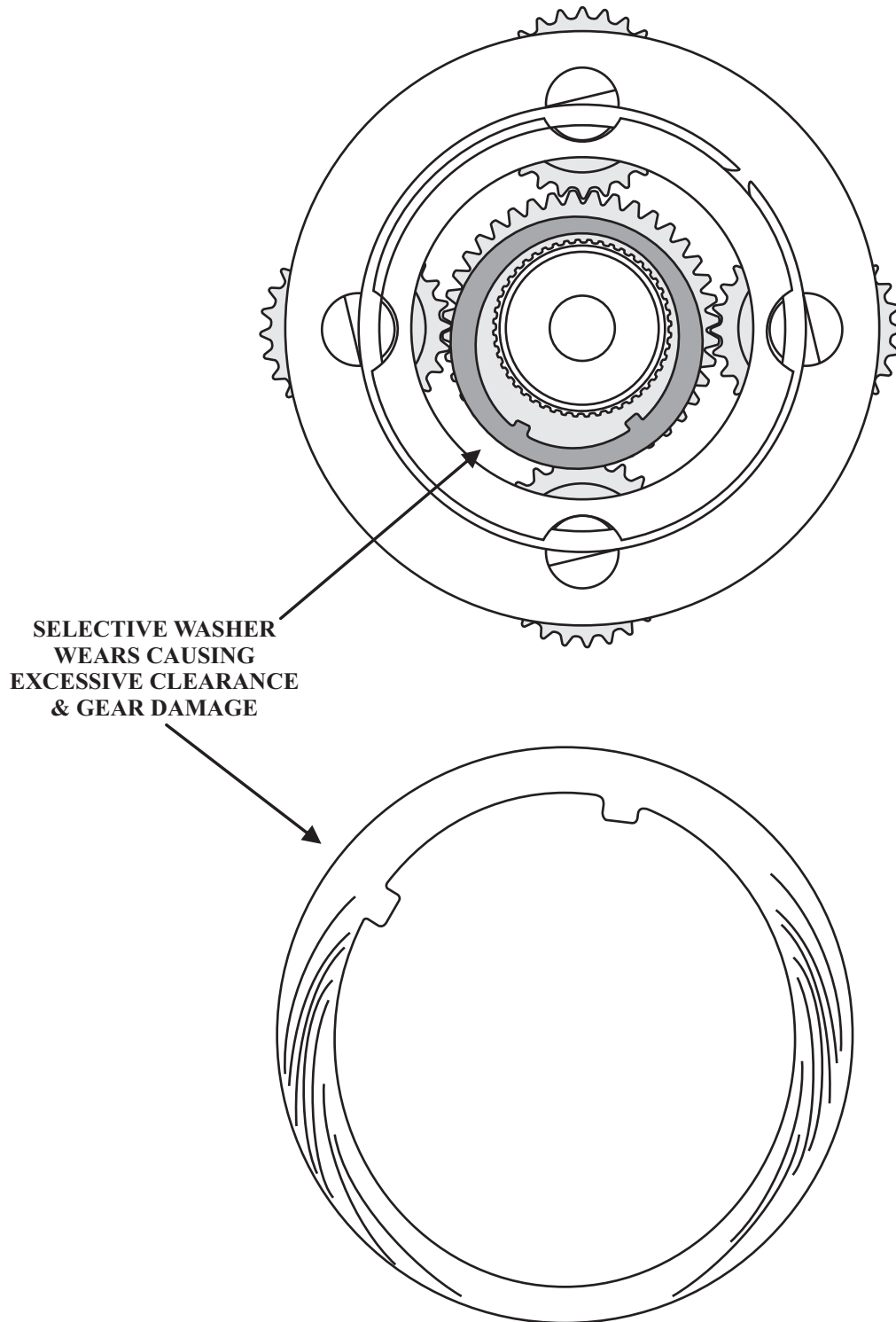
A special thanks to Ed Lee from Sonnax and Bobby Mace from Transmission Digest for supplying the photos.

The Steyr AWD system can be found in the following vehicles:

1999 - 2004 Olds Silhouette
2001 - 2005 Pontiac Aztek
1999 - 2008 Pontiac Montana
2003 - 2008 Chevy Uplander
2001 - 2006 Buick Rendezvous
2005 - 2007 Buick Terraza

AWD NOISE & GEAR FAILURE

AWD FINAL DRIVE CARRIER



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Figure 1

AWD NOISE & GEAR FAILURE

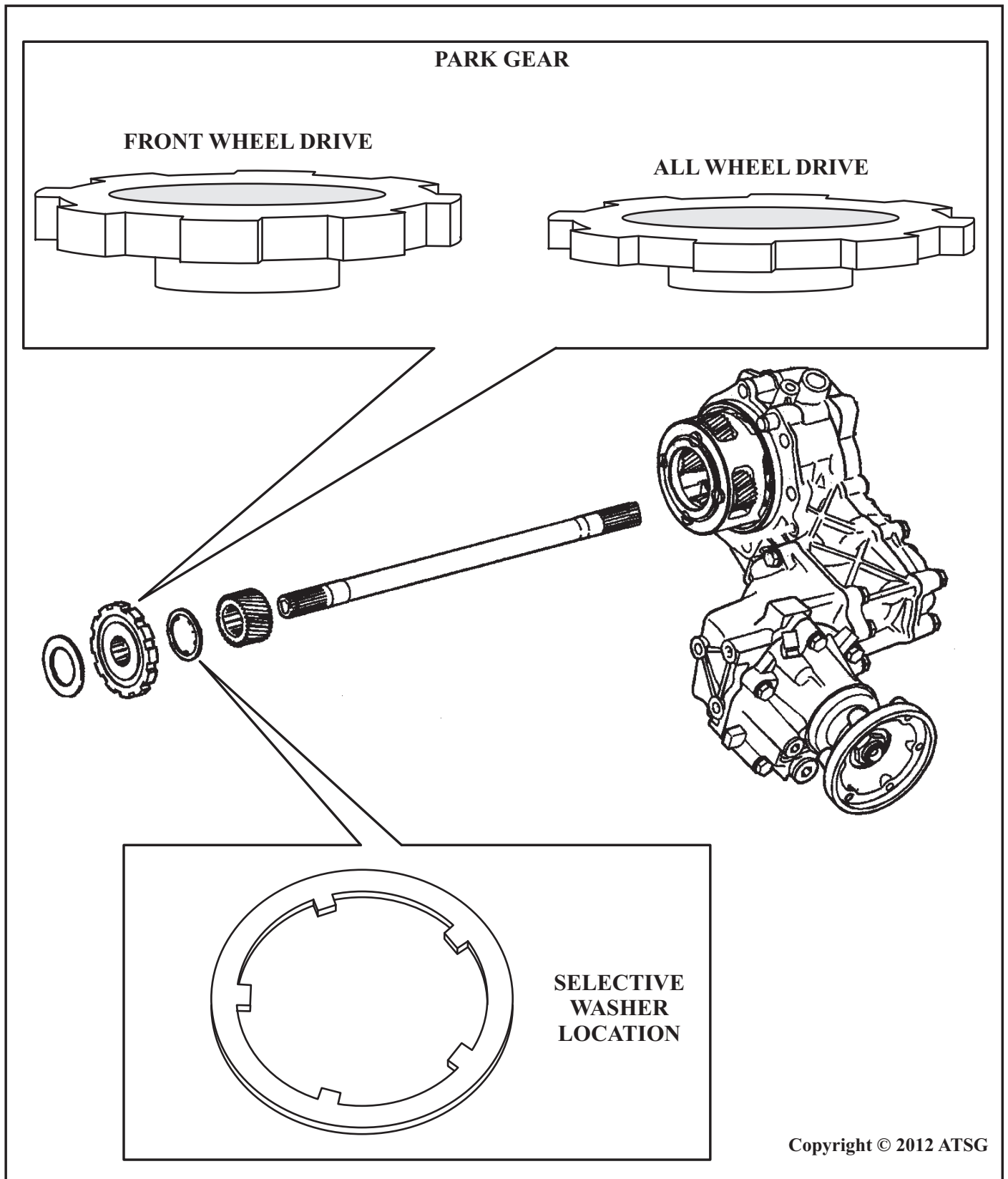


Figure 2

AWD NOISE & GEAR FAILURE

STEP ONE

Position the transmission with the case side cover down. Install final drive sun gear shaft.

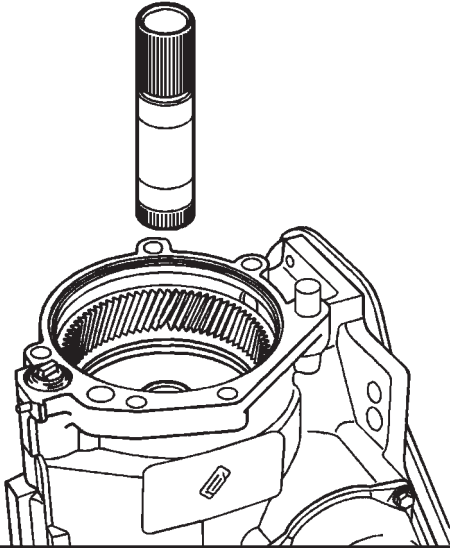


Figure 3

STEP TWO

Install park gear and thrust bearing.

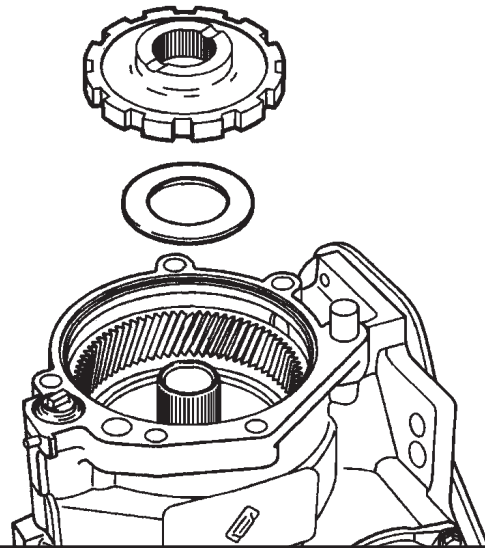


Figure 4

STEP THREE

Install sun gear onto sun gear shaft with step facing down.

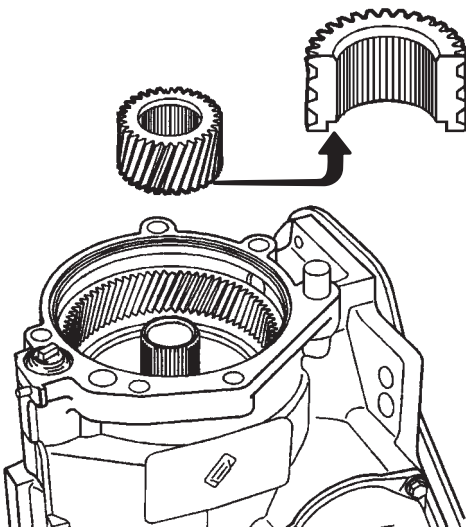
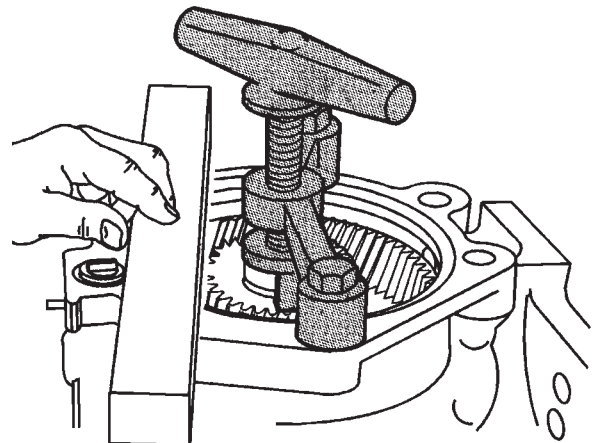


Figure 5

STEP FOUR

Install tool J44472 onto case & hand tighten to remove end play. Place a piece of flat stock across case surface.



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Figure 6

AWD NOISE & GEAR FAILURE

STEP FIVE

Measure the distance from the bottom surface of the flat stock to the top of the sun gear. This measurement is "DIMENSION A". Remove tools from case.

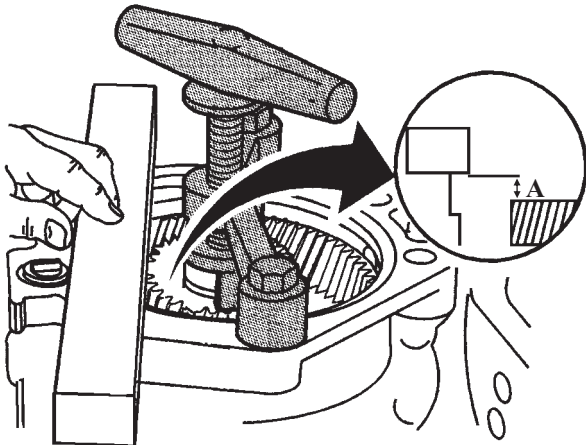


Figure 7

STEP SIX

Install a piece of flat stock onto the final drive carrier. Measure the distance from the bottom surface of the flat stock to the surface of the transfer case. This measurement is DIMENSION "B1".

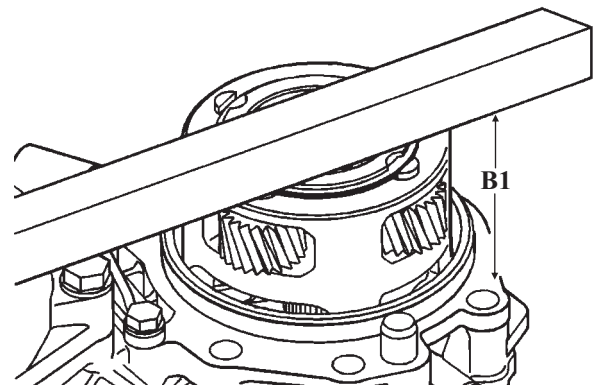


Figure 8

STEP SEVEN

Measure the distance from the bottom of the flat stock to the bearing inside the final drive carrier. This is "DIMENSION B2". Now subtract the B2 measurement from the B1, this is DIMENSION "B". Refer to the selective washer chart in Figure 13 for correct washer selection.

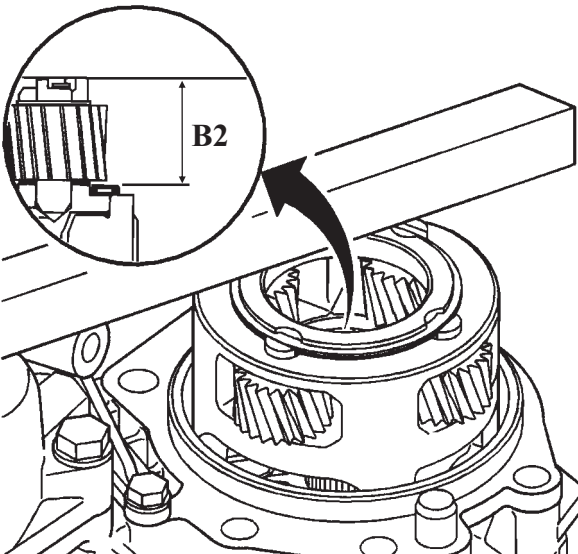


Figure 9

STEP EIGHT

Remove previously installed sun gear and install the selective washer. See Step 9.

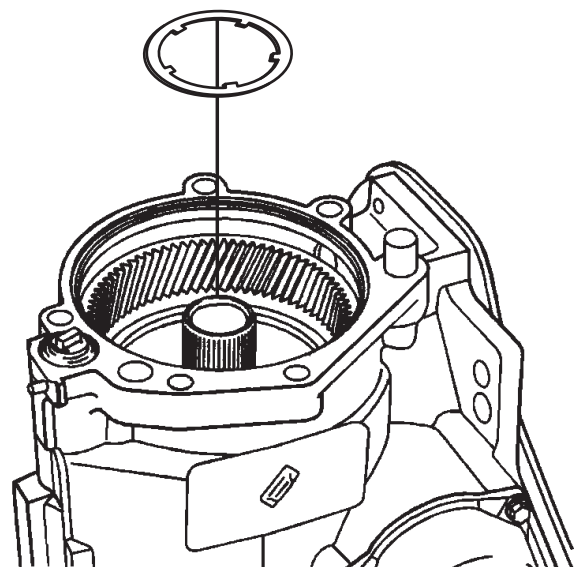


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STEP NINE

Reinstall the sun gear on top of selective washer with the step towards the washer.

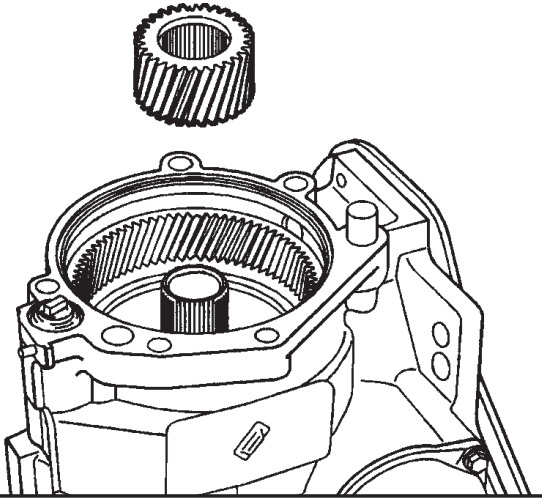


Figure 11

STEP TEN

The oil dam must be installed with the oil passage notch aligned with the hole in the case as shown below. Failure to do so will result in gear damage due to blocked oil flow. Install transfer case with a new seal.

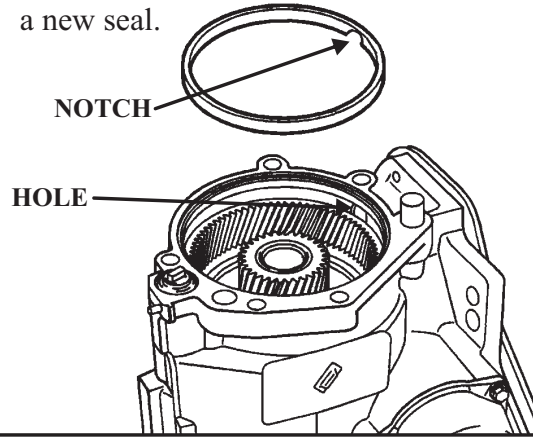


Figure 12

TRANSFER CASE SELECTIVE WASHER SELECTION

DIMENSION "A"		DIMENSION "B"		WASHER COLOR	WASHER SIZE		WASHER PART #
MM	INCH	MM	INCH		MM	INCH	
22.57 - 22.46	.888 - .884	20.48 - 20.72	.806 - .816	DK GREEN	1.57	.061	24213494
22.68 - 22.57	.892 - .888	20.48 - 20.72	.806 - .816	DK BLUE	1.68	.066	24213493
22.57 - 22.46	.888 - .884	20.23 - 20.48	.796 - .806	BROWN	1.79	.070	24213492
22.79 - 22.68	.897 - .892	20.48 - 20.72	.806 - .816				
22.68 - 22.57	.892 - .888	20.23 - 20.48	.796 - .806	PURPLE	1.90	.074	24213491
22.90 - 22.79	.901 - .897	20.48 - 20.72	.806 - .816				
22.57 - 22.46	.888 - .884	19.98 - 20.23	.786 - .796	BLACK	2.01	.079	24213490
22.79 - 22.68	.897 - .892	20.23 - 20.48	.796 - .806				
23.01 - 22.90	.906 - .901	20.48 - 20.72	.806 - .816				
22.90 - 22.79	.901 - .897	20.23 - 20.48	.796 - .806	NO COLOR	2.12	.083	24213489
23.12 - 23.01	.910 - .906	20.48 - 20.72	.806 - .816				
22.79 - 22.68	.892 - .888	19.98 - 20.23	.786 - .796	PINK	2.23	.088	24213488
23.01 - 22.90	.906 - .901	20.23 - 20.48	.796 - .806				
23.23 - 23.12	.914 - .910	20.48 - 20.72	.806 - .816				
22.90 - 22.79	.901 - .897	19.98 - 20.23	.786 - .796	ORANGE	2.34	.092	24213487
23.12 - 23.01	.910 - .906	20.23 - 20.48	.796 - .806				
23.01 - 22.90	.906 - .901	19.98 - 20.23	.786 - .796	WHITE	2.45	.096	24213486
23.23 - 23.12	.914 - .910	20.23 - 20.48	.796 - .806				
23.12 - 23.01	.910 - .906	19.98 - 20.23	.786 - .796	LT GREEN	2.56	.100	24213485
23.23 - 23.12	.914 - .910	19.98 - 20.23	.786 - .796	LT BLUE	2.67	.105	24213484

Figure 13