



Palm Tran (Palm Beach County Transit)

Buses in Fleet – 156 (150 Gillig, 6 New Flyer)

Power Brake Diamond “Xtended Life Brakes” (XLB) Program Started, Spring 2011

Buses Installed To-Date With Power Brake – 118 with model years ranging from 2004 to 2012

Before beginning the XLB program, customer stated that Gillig buses averaged approximately 38,000 miles rear brake life with fronts being replaced at alternating rear brake jobs (approximately 76,000 miles).

A sample of tracking data supplied by customer as of 09/19/14 shows current top-performing buses. Bear in mind, since the beginning of the program a good number of buses have had multiple (predominantly rear) relines with XLB brakes. Information shown is most current mileage with buses still in operation. In some cases previous reline information is noted in column at right.

UNIT	F/R	DATE OF INSTALLATION	INSTALL ODOMETER	PRESENT ODOMETER	CURRENT MILEAGE	NOTES
805	F	4/25/2011	123,728	318,495	194,767	
714	F	7/25/2011	219864	379588	159,724	
712	F	2/6/2011	266502	413528	147,026	
612	F	11/17/2011	400249	545863	145,614	
615	F	11/18/2011	330486	465972	135,486	
804	F	1/19/2012	161268	296395	135,127	
716	F	5/29/2011	203579	337880	134,301	
718	F	7/17/2012	268297	400954	132,657	
608	F	3/28/2012	401032	530166	129,134	
715	F	8/20/2013	364357	432582	68,225	BRAKES CHANGED AT 127,770 (2 YEARS)
807	F	6/28/2012	182000	309040	127,040	
800	R	2/15/2012	172,461	309,537	137,076	
805	R	11/20/2012	209,213	318,495	109,282	PREVIOUS REARS RELINED AT 85,485
725	R	6/20/2012	244,717	340,549	95,832	
806	R	11/12/2012	228,684	318,592	89,908	PREVIOUS REARS RELINED AT 80,844
710	R	5/23/2013	345,262	431,373	86,111	
804	R	5/4/2014	211,836	296,395	84,559	
712	R	2/20/2013	329,464	413,528	84,064	PREVIOUS REARS RELINED AT 67,504
708	R	12/13/2012	303,510	385,089	81,579	
1115	R	8/7/2013	111,613	192,915	81,302	
1104	R	5/6/2013	129,692	206,029	76,337	
721	R	3/7/2013	281,882	354,817	72,935	PREVIOUS REARS RELINED AT 83,690
714	R	10/10/2013	331,878	379,588	47,710	PREVIOUS REARS RELINED AT 115,107
720	R	10/18/2013	344,441	392,501	48,060	PREVIOUS REARS RELINED AT 109,417

As a rule of thumb, the Power Brake program has tripled the average brake life of the Palm Tran fleet. In certain cases this statement may deviate higher or lower due to external circumstances such as route type (long-haul to Belle Glade vs. high volume Federal Highway) and mechanical problems (e.g. leaking oil seal, retarder issues, etc.). As a result, the cost-per-mile (CPM) for parts has been reduced dramatically.

Since the inception of the program, continuous interaction with the customer provided for lessons learned toward product and process improvement. This is an ongoing collaboration with the mutual goal to keep buses performing at peak efficiency, staying out of the shop (as much as possible), earning revenue and serving customers.

The concept of a single axle kit is one part number per axle per brake job. This greatly reduces customer inventory requirements. Warranty requires that all parts in the kit are replaced, thus providing standardization, eliminating discretionary and erroneous parts replacement at the technician level.

The use of Diamond Technology brake drums and KVT ceramic brake linings are essential to the achievement of long brake life. However, the brake program cannot succeed without a foundation of well-trained and skilled professional technicians to install and maintain them. Standard installation methods that meet or exceed original equipment manufacturer (OEM) procedures help to ensure uniformity and program stability. Power Brake provides technician training at the outset along with periodic repeat sessions for new hires. If a specific problem occurs it may be necessary to provide specifically targeted instruction to address the issue.

Particular training emphasis is placed upon achieving maximum brake efficiency while paying due heed to the principals of brake balance, brake adjustment, chamber stroke, slack adjuster function, and brake drum concentricity. The use of simple diagnostic tools and the recording of data help to diagnose issues before they become costly failures.

Approximately two years into the program, Power Brake introduced grease-free thermoset composite s-cam bushings as part of the brake axle kits. This product enhancement eliminates the need to grease brake s-cams at preventative maintenance intervals, saving labor and lubricants while reducing environmental risk from hazardous waste.

SKF wheel seals were replaced with National Seals at the request of the customer and after some oil seal leaking problems. This is not to suggest that one brand of seal is inferior to the other; only that the customer was more comfortable with the National Seal. Wheel-end training accompanied the product change. As a result, once common seal leaks are now a rare occurrence.

The combination of high-technology premium products, inventory simplicity, installation standardization, and advancement of maintenance culture all add up to enhance brake efficiency and improve cost reduction.