



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
415.1.71 CONTROL OF MARKING MATERIALS	015	11/4/2011
415.3.19 SUPPLIER HELD EQUIPMENT CALIBRATION & CONTROL	005	4/7/2011
AB999G OUTSOURCE WAX	002	10/28/2011
AL040B INJECTION	005	1/27/2003
AL040B OUTSOURCE FINISH/VISUAL	001	3/30/2011
AL040B OUTSOURCE WAX (DIP READY)	011	5/16/2012
AL040B SHP/REC FINISH/VISUAL	001	3/30/2011
AL040B VEND BLEND LIMITS	001	5/9/2012
AL040B VEND VISUAL INSP	001	5/9/2012
AL054C INJECTION	005	4/7/2008
AL054C OUTSOURCE WAX	004	10/29/2001
AL055A INJECTION	007	6/2/2004
AL055A OUTSOURCE WAX	003	11/8/2002
AL055A VEND CER CORE	003	11/12/2002
AL056B INJECTION	003	3/22/2004
AL056B OUTSOURCE WAX	002	11/16/2000
AL056C INJECTION	008	12/15/2009
AL056C SHP/REC MACHINE	004	4/20/2009
AL056C VEND PLASTIC A/F	004	5/29/2009
AL067A INJECTION	003	10/8/2009
AL067A VEND PLASTIC A/F	002	8/3/2010
AL067B VEND CER CORE	003	3/1/2010
AL097A INJECTION	002	12/6/2007
AL097A OUTSOURCE WAX	005	12/10/2010
AL097A VEND PLASTIC A/F	003	1/13/2009
AL124B INJECTION	006	5/3/2010
AL124B VEND PLASTIC A/F	005	5/29/2009
AL124C INJECTION	004	5/4/2011
AL124C VEND PLASTIC A/F	002	4/26/2012
AL237G INJECTION	007	6/23/2008
AL237G VEND CER CORE	002	9/23/2004
AL237G VEND PLASTIC A/F	004	12/13/2007
AL290A SHP/REC HIP	001	9/28/2010
AL316A INJECTION	004	1/5/2010
AL316A VEND PLASTIC A/F	005	5/29/2009
AL318D INJECTION	014	5/28/2009
AL318D VEND CER CORE	008	12/10/2009
AL318D VEND PLASTIC A/F	006	5/29/2009
AL318E INJECTION	005	5/28/2009



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AL318E VEND CER CORE	001	4/7/2008
AL318E VEND PLASTIC A/F	003	2/13/2006
AL337A INJECTION	001	5/1/2012
AL337A VEND PLASTIC A/F	001	5/2/2012
AL384A INJECTION	005	8/2/2005
AL384A VEND PLASTIC A/F	004	7/21/2005
AL384A VEND QUARTZ	002	6/23/2005
AL469F INJECTION	006	5/30/2008
AL469F VEND PLASTIC A/F	006	2/20/2009
AL469G INJECTION	002	6/10/2008
AL469G VEND PLASTIC A/F	003	11/6/2009
AL536C INJECTION	003	2/13/2006
AL536C SHP/REC MACHINE	005	1/26/2005
AL536C VEND PLASTIC A/F	004	6/15/2007
AL536G INJECTION	003	11/4/2008
AL536G SHP/REC MACHINE	002	5/17/2012
AL536G VEND PLASTIC A/F	006	9/8/2010
AL563B INJECTION	008	6/24/2011
AL563B VEND CER CORE	004	12/10/2009
AL563B VEND PLASTIC A/F	005	2/13/2012
AL564B INJECTION	011	11/2/2009
AL564B VEND PLASTIC A/F	007	5/29/2009
AL564D INJECTION	006	2/25/2011
AL567B INJECTION	003	5/17/2012
AL567B OUTSOURCE WAX	003	3/29/2007
AL567B VEND PLASTIC A/F	002	5/17/2012
AL568A INJECTION	005	1/5/2010
AL568A OUTSOURCE WAX	006	5/3/2011
AL568A OUTSOURCE WAX CMM	001	1/26/2011
AL568A VEND BLEND LIMITS	001	1/13/2010
AL568A VEND PLASTIC A/F	006	10/7/2008
AL568A VEND VISUAL INSP	001	1/13/2010
AL571L INJECTION	005	1/27/2003
AL571L OUTSOURCE FINISH/VISUAL	001	3/30/2011
AL571L OUTSOURCE WAX (DIP READY)	009	12/2/2011
AL571L SHP/REC FINISH/VISUAL	001	3/30/2011
AL571L SHP/REC HIP	007	10/9/2008
AL571V SHP/REC HIP	003	11/16/2006
AL585A INJECTION	004	10/7/2005



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AL585A VEND CER CORE	006	9/21/2011
AL585A VEND PLASTIC A/F	006	4/9/2009
AL585B INJECTION	003	10/7/2005
AL585B VEND CER CORE	003	10/17/2005
AL585B VEND PLASTIC A/F	002	9/2/2005
AL586A INJECTION	007	10/8/2009
AL586A VEND PLASTIC A/F	004	10/11/2005
AL586B INJECTION	005	4/10/2012
AL586B VEND PLASTIC A/F	005	5/29/2009
AL586W INJECTION	002	4/10/2012
AL611B INJECTION	003	7/22/2005
AL611B VEND PLASTIC A/F	005	2/19/2009
AL611B VEND QUARTZ	001	11/13/2003
AL611D INJECTION	001	9/11/2006
AL612A INJECTION	010	10/22/2010
AL612A SHP/REC HIP	001	3/24/2003
AL612A VEND PLASTIC A/F	009	8/6/2009
AL612A VEND QUARTZ	008	4/19/2005
AL612C INJECTION	003	8/3/2009
AL612C SHP/REC HIP	001	9/21/2006
AL612C VEND PLASTIC A/F	001	9/21/2006
AL612C VEND QUARTZ	001	9/21/2006
AL612D INJECTION	001	6/24/2011
AL612D VEND PLASTIC A/F	001	4/27/2012
AL612E INJECTION	002	6/24/2011
AL612E SHP/REC HIP	001	2/10/2011
AL612E VEND PLASTIC A/F	002	4/27/2012
AL612E VEND QUARTZ	001	1/18/2011
AL663A INJECTION	006	4/30/2012
AL663A VEND CER CORE	005	3/1/2010
AL663A VEND PLASTIC A/F	007	2/19/2009
AL664B INJECTION	011	4/27/2012
AL664B VEND CER CORE	005	5/6/2011
AL664B VEND PLASTIC A/F	004	8/30/2004
AL664C INJECTION	001	4/26/2011
AL664C VEND CER CORE	002	5/6/2011
AL664C VEND PLASTIC A/F	001	2/10/2011
AL717C INJECTION	005	1/27/2003
AL717C OUTSOURCE FINISH/VISUAL	001	3/30/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AL717C OUTSOURCE WAX (DIP READY)	008	12/7/2011
AL717C SHP/REC FINISH/VISUAL	001	3/30/2011
AL717C SHP/REC HIP	008	11/16/2006
AL717D INJECTION	002	9/28/2006
AL717D OUTSOURCE WAX	002	3/27/2007
AL717D SHP/REC HIP	004	11/16/2006
AL717V SHP/REC HIP	005	11/16/2006
AL731B INJECTION	006	12/5/2008
AL731B SHP/REC MACHINE	003	10/8/2009
AL731B VEND PLASTIC A/F	005	2/19/2009
AL732C INJECTION	004	12/14/2006
AL732C VEND PLASTIC A/F	004	2/19/2009
AL764A INJECTION	004	1/5/2010
AL764A VEND PLASTIC A/F	005	2/19/2009
AL776A INJECTION	004	10/15/2008
AL776A OUTSOURCE WAX (DIP READY)	007	11/26/2008
AL776A VEND CER CORE	006	8/6/2009
AL776A VEND PLASTIC A/F	004	3/10/2009
AL776A VEND WAX CMM	002	1/5/2012
AL777A INJECTION	007	1/6/2010
AL777A VEND PLASTIC A/F	005	2/19/2009
AL839B INJECTION	002	12/14/2006
AL839B SHP/REC HIP	004	11/14/2005
AL839B VEND PLASTIC A/F	003	4/22/2008
AL839V SHP/REC HIP	003	11/14/2005
AL918A INJECTION	003	6/8/2004
AL919B INJECTION	003	1/10/2012
AL936B INJECTION	008	5/23/2012
AL936B OUTSOURCE WAX (DIP READY)	009	9/13/2011
AL936B SHP/REC FIN/VIS	001	1/27/2006
AL936B SHP/REC HIP	007	1/30/2003
AL936B VEND BLEND LIMITS	001	11/21/2008
AL936B VEND CER CORE	009	3/16/2010
AL936B VEND CORE PREP	001	5/13/2009
AL936B VEND VISUAL INSP	001	1/20/2009
AL936B VEND WAX SONIC	002	5/23/2002
AL963A INJECTION	003	8/25/2005
AL963A OUTSOURCE WAX (DIP READY)	005	11/26/2008
AL963A VEND PLASTIC A/F	004	5/29/2009



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AL963A VEND WAX CMM	002	1/5/2012
AP007A SHP/REC HIP	002	11/3/2010
AR/LY SUPPLIER FLOWDOWN	002	1/14/2010
AR000T SHP/REC HIP	001	10/21/2003
AR000Z SHP/REC HIP	001	9/16/2003
AR002A INJECTION	002	6/9/2004
AR002A SOLUBLE PREP	001	3/5/1999
AR002G INJECTION	005	4/29/2009
AR002G OUTSOURCE WAX	003	8/17/2006
AR002G VEND PLASTIC A/F	005	4/20/2009
AR005D OUTSOURCE WAX	002	10/28/2011
AR005D SHP/REC HIP	001	5/16/2011
AR005D VEND CER CORE	002	4/15/2011
AR009C INJECTION	006	4/18/2006
AR009C OUTSOURCE FIN/VIS	001	9/17/2004
AR009C SHP/REC FINI/VIS	001	8/10/2004
AR009C VEND CER CORE	010	12/4/2009
AR009C WAX ASSEMBLY (OUT/IN)	005	10/16/2006
AR012J INJECTION	006	5/16/2006
AR012J VEND PLASTIC A/F	006	1/29/2009
AR012J VEND QUARTZ	002	10/7/2002
AR012K INJECTION	002	11/11/2010
AR012K VEND PLASTIC A/F	001	6/9/2010
AR012K VEND QUARTZ	001	6/9/2010
AR013B INJECTION	006	8/4/2011
AR013B SHP/REC HIP	003	11/23/2010
AR013B VEND CER CORE	003	5/5/2006
AR013B VEND HEAT TREAT	003	9/29/2004
AR013V SHP/REC HIP	002	11/23/2010
AR013V VEND HEAT TREAT	002	9/29/2004
AR014B INJECTION	004	10/6/2009
AR014B SHP/REC HIP	004	8/8/2011
AR014B VEND PLASTIC A/F	003	7/6/2005
AR015A SHP/REC HIP	001	5/7/2008
AR017H INJECTION	003	2/20/2006
AR017H SHP/REC MACHINE	001	5/12/1999
AR019D INJECTION	004	2/10/2010
AR019D OUTSOURCE WAX	004	10/30/2009
AR019D VEND PLASTIC A/F	004	3/2/2009



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR019K INJECTION	001	6/9/2010
AR019K OUTSOURCE WAX	001	12/10/2010
AR019K VEND PLASTIC A/F	001	6/9/2010
AR021C INJECTION	004	10/6/2009
AR021C OUTSOURCE WAX	002	4/25/2001
AR021C VEND PLASTIC A/F	003	7/8/2005
AR022B INJECTION	004	5/6/2009
AR022B SHP/REC EDM	003	2/20/2006
AR022B VEND PLASTIC A/F	003	10/11/2005
AR022C INJECTION	001	2/22/2011
AR022C SHP/REC EDM	001	2/3/2011
AR022C VEND PLASTIC A/F	002	10/24/2011
AR035B INJECTION	004	6/3/2004
AR035B SHP/REC HIP	003	11/23/2010
AR036A INJECTION	001	4/19/2010
AR036A OUTSOURCE WAX	001	4/19/2010
AR036A SHP/REC MACHINE	001	3/12/2010
AR036A VEND PLASTIC A/F	001	3/22/2010
AR038C INJECTION	006	10/5/2009
AR038C OUTSOURCE WAX	001	1/11/2011
AR038C VEND PLASTIC A/F	005	3/27/2009
AR045A INJECTION	006	4/22/2008
AR045A SHP/REC EDM	007	5/16/2007
AR045A SHP/REC FIN/VIS	001	1/5/2007
AR045A VEND BLEND LIMITS	001	5/14/2008
AR045A VEND HEAT TREAT	003	8/21/2006
AR045A VEND PLASTIC A/F	004	11/10/2009
AR045A VEND VISUAL INSP	002	4/20/2007
AR045V VEND HEAT TREAT	002	8/21/2006
AR047B INJECTION	003	5/4/2012
AR047B SHP/REC FIN/VIS	001	1/5/2007
AR047B VEND BLEND LIMITS	001	5/14/2008
AR047B VEND HEAT TREAT	002	8/21/2006
AR047B VEND PLASTIC A/F	004	7/7/2005
AR047B VEND VISUAL INSP	001	12/16/2004
AR047V VEND HEAT TREAT	002	8/21/2006
AR052A INJECTION	005	4/9/2012
AR052A SHP/REC HIP	002	11/23/2010
AR052A VEND HEAT TREAT	001	5/26/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR055C INJECTION	004	10/5/2009
AR055C VEND PLASTIC A/F	002	6/15/2007
AR064G INJECTION	007	9/3/2008
AR064G VEND CER CORE	002	5/5/2006
AR066D INJECTION	008	11/17/2011
AR066D OUTSOURCE XRAY INSP	001	10/17/2005
AR066D SHP/REC MACHINE	002	5/29/2002
AR066D VEND PLASTIC A/F	004	2/21/2006
AR071D INJECTION	004	10/6/2009
AR071D OUTSOURCE XRAY INSP	001	10/17/2005
AR071D SHP/REC HIP	001	6/23/2010
AR071D SHP/REC MACHINE	001	4/25/2012
AR071D VEND PLASTIC A/F	005	4/25/2012
AR081A INJECTION	002	2/10/2009
AR081A OUTSOURCE WAX	001	2/24/2009
AR081A VEND PLASTIC A/F	002	2/10/2009
AR082B INJECTION	001	4/29/2003
AR088B INJECTION	006	6/20/2008
AR088B SHP/REC HIP	005	11/23/2010
AR088B VEND CER CORE	003	5/4/2012
AR088B VEND HEAT TREAT	004	4/25/2012
AR088V VEND HEAT TREAT	001	4/25/2012
AR092B INJECTION	003	4/16/2008
AR092B OUTSOURCE WAX	004	3/15/2011
AR092B SHP/REC EDM	003	2/9/2010
AR092B SHP/REC PRESSURE TESTING	001	3/3/2011
AR092B VEND CER CORE	005	4/1/2009
AR092B VEND WAX SONIC	001	4/16/2008
AR111A INJECTION	003	5/6/2009
AR111A VEND PLASTIC A/F	003	9/14/2004
AR111B INJECTION	005	6/16/2011
AR115B INJECTION	002	10/19/1999
AR115B SHP/REC EDM	002	1/17/2000
AR123C INJECTION	002	6/18/2004
AR128A INJECTION	003	3/19/2009
AR128A OUTSOURCE SOLUBLE	002	7/13/2010
AR128A SOLUBLE PREP	001	4/29/2003
AR132A INJECTION	005	8/4/2011
AR132A SHP/REC HIP	004	11/23/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR132A SHP/REC MACHINE	001	5/4/2012
AR132A VEND CER CORE	002	5/4/2012
AR132A VEND HEAT TREAT	004	4/25/2012
AR132V SHP/REC HIP	002	11/23/2010
AR132V VEND HEAT TREAT	002	4/25/2012
AR141B INJECTION	004	4/26/2010
AR141B SHP/REC HIP	002	10/29/2010
AR141B VEND PLASTIC A/F	004	7/6/2005
AR141C INJECTION	006	5/6/2009
AR141C OUTSOURCE WAX (DIP READY)	005	4/26/2010
AR141C VEND PLASTIC A/F	003	10/11/2005
AR144C INJECTION	004	9/15/2004
AR144C SHP/REC HIP	003	11/23/2010
AR144C SHP/REC MACHINE	001	10/26/1999
AR144V SHP/REC HIP	003	11/23/2010
AR146A INJECTION	007	10/6/2009
AR146A OUTSOURCE WAX	009	1/10/2002
AR146A SHP/REC MACHINE	001	3/28/2000
AR146A VEND PLASTIC A/F	004	8/25/2005
AR150B INJECTION	005	4/29/2009
AR150B VEND PLASTIC A/F	004	4/29/2009
AR155B INJECTION	004	4/29/2009
AR155B OUTSOURCE WAX	006	10/28/2005
AR155B VEND PLASTIC A/F	005	4/29/2009
AR156A INJECTION	004	4/29/2009
AR156A OUTSOURCE WAX	002	5/17/2001
AR156A VEND PLASTIC A/F	004	4/20/2009
AR157A INJECTION	004	4/29/2009
AR157A VEND CER CORE	003	1/29/2009
AR157A VEND PLASTIC A/F	004	4/20/2009
AR160A INJECTION	003	5/6/2009
AR160A VEND PLASTIC A/F	004	9/14/2004
AR161A INJECTION	003	5/6/2009
AR161A VEND PLASTIC A/F	003	9/1/2004
AR165A INJECTION	003	5/6/2009
AR165A OUTSOURCE WAX	002	2/1/2010
AR165A VEND PLASTIC A/F	006	1/6/2010
AR165B INJECTION	001	3/2/2010
AR165B OUTSOURCE WAX	001	4/17/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR165B VEND PLASTIC A/F	001	4/17/2010
AR165C INJECTION	001	2/1/2012
AR165C OUTSOURCE WAX	001	2/1/2012
AR165C VEND PLASTIC A/F	001	2/1/2012
AR172A INJECTION	001	1/12/2009
AR172A VEND CER CORE	005	9/9/2009
AR172A VEND WAX SONIC	001	3/24/2008
AR172B INJECTION	001	10/28/2011
AR172B OUTSOURCE WAX	001	10/28/2011
AR172B VEND CER CORE	001	10/28/2011
AR172B VEND WAX SONIC	001	10/28/2011
AR176A INJECTION	002	4/26/2010
AR176A SHP/REC HIP	002	11/23/2010
AR176A VEND CER CORE	002	2/5/2010
AR176V SHP/REC HIP	002	11/23/2010
AR188A INJECTION	002	6/22/2004
AR188A SOLUBLE PREP	001	3/5/1999
AR188B INJECTION	004	5/7/2009
AR188B OUTSOURCE WAX	001	4/21/2003
AR188B VEND PLASTIC A/F	004	2/1/2010
AR194C INJECTION	007	6/5/2010
AR194C SHP/REC HIP	006	1/13/2012
AR194C SHP/REC N-RAY	001	8/14/2003
AR194C VEND CER CORE	008	1/29/2009
AR195C INJECTION	009	6/5/2010
AR195C SHP/REC HIP	006	1/13/2012
AR195C SHP/REC N-RAY	001	8/14/2003
AR195C VEND CER CORE	009	1/29/2009
AR205B INJECTION	003	5/7/2009
AR205B SHP/REC EDM	002	9/5/2003
AR205B VEND PLASTIC A/F	004	10/12/2005
AR207B INJECTION	002	1/26/2001
AR207B SHP/REC HIP	006	11/23/2010
AR207B VEND HEAT TREAT	003	9/29/2004
AR210A INJECTION	005	11/11/2011
AR210A VEND PLASTIC A/F	004	3/12/2007
AR221A INJECTION	005	8/4/2011
AR221A SHP/REC HIP	003	11/23/2010
AR221A VEND CER CORE	002	5/5/2006



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR221A VEND HEAT TREAT	001	9/29/2004
AR221V VEND HEAT TREAT	001	9/29/2004
AR233B CMSX-3 VANES	003	3/23/2009
AR250D INJECTION	002	10/12/2005
AR250D SHP/REC EDM	004	10/24/2011
AR250D VEND PLASTIC A/F	003	10/12/2005
AR262A INJECTION	005	6/5/2010
AR262A OUTSOURCE WAX	002	10/19/2005
AR262A VEND PLASTIC A/F	005	4/20/2009
AR266A INJECTION	004	11/9/2011
AR266A SHP/REC EDM	007	11/9/2011
AR266A VEND PLASTIC A/F	006	11/1/2011
AR267A INJECTION	004	11/9/2011
AR267A SHP\REC EDM	005	11/5/2010
AR267A VEND PLASTIC A/F	006	11/7/2011
AR267B INJECTION	004	10/21/2011
AR267B SHP/REC EDM	003	3/15/2004
AR267B VEND PLASTIC A/F	003	11/7/2011
AR268A INJECTION	003	5/7/2009
AR268A SHP/REC EDM	003	10/26/2010
AR268A SHP/REC HIP	004	11/9/2011
AR268A VEND PLASTIC A/F	004	2/1/2012
AR268V SHP/REC HIP	002	11/23/2010
AR269A INJECTION	004	11/9/2011
AR269A SHP/REC EDM	003	11/9/2011
AR269A SHP/REC HIP	005	11/9/2011
AR269A VEND HEAT TREAT	001	9/29/2004
AR269A VEND PLASTIC A/F	004	11/7/2011
AR269V SHP/REC HIP	001	11/30/2004
AR269V VEND HEAT TREAT	001	9/29/2004
AR271A INJECTION	008	10/5/2009
AR271A OUTSOURCE WAX (DIP READY)	003	7/12/2011
AR271A VEND PLASTIC A/F	007	5/4/2011
AR272K INJECTION	004	10/21/2011
AR272K SHP/REC EDM	005	11/17/2011
AR272K SHP/REC HIP	003	11/17/2011
AR272K VEND HEAT TREAT	001	9/29/2004
AR272K VEND PLASTIC A/F	006	11/17/2011
AR278C INJECTION	007	8/4/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR278C OUTSOURCE WAX	001	5/1/2008
AR278C OUTSOURCE WAX CMM	001	5/1/2008
AR278C VEND PLASTIC A/F	003	4/17/2010
AR285A INJECTION	007	10/5/2009
AR285A VEND PLASTIC A/F	008	1/6/2009
AR295A INJECTION	003	5/6/2009
AR295A SHP/REC HIP	002	11/23/2010
AR295A VEND PLASTIC A/F	004	10/11/2005
AR303B INJECTION	003	5/6/2009
AR303B SHP/REC EDM	004	11/5/2010
AR303B SHP/REC HIP	005	11/23/2010
AR303B VEND HEAT TREAT	002	9/29/2004
AR303B VEND PLASTIC A/F	003	10/12/2005
AR305B INJECTION	003	7/5/2006
AR305B SHP/REC HIP	004	7/19/2011
AR305B VEND CER CORE	003	6/21/2006
AR305B VEND HEAT TREAT	001	9/29/2004
AR305V SHP/REC HIP	003	11/23/2010
AR305V VEND HEAT TREAT	001	9/29/2004
AR307C INJECTION	004	9/6/2005
AR307C OUTSOURCE WAX	004	6/13/2005
AR307C SHP/REC MACHINE CP	001	10/26/1999
AR307C VEND PLASTIC A/F	005	9/6/2005
AR307C VEND QUARTZ	004	10/12/2006
AR310A INJECTION	004	3/17/2011
AR310A OUTSOURCE WAX	005	4/19/2011
AR310A SHP/REC HIP	003	10/29/2010
AR310A VEND PLASTIC A/F	003	11/10/2009
AR310V SHP/REC HIP	002	11/3/2010
AR315A INJECTION	008	4/20/2012
AR315A OUTSOURCE WAX (DIP READY)	007	2/28/2006
AR315A VEND PLASTIC A/F	007	11/15/2005
AR316A INJECTION	005	4/5/2010
AR316A OUTSOURCE WAX (DIP READY)	002	2/17/2011
AR316A SHP/REC HIP	003	11/23/2010
AR316A SOLUBLE PREP	002	11/16/1999
AR316V SHP/REC HIP	002	11/23/2010
AR318A INJECTION	002	6/10/2004
AR318A OUTSOURCE WAX (DIP READY)	003	4/26/2005



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR318A SHP/REC MACHINE HT	001	8/12/2004
AR318A SOLUBLE PREP	001	3/5/1999
AR318A VEND SURF FNSH	001	5/18/1999
AR318B INJECTION	002	4/5/2004
AR318B OUTSOURCE WAX	005	2/17/2011
AR318B SHP/REC MACHINE HT	002	5/5/2005
AR318B VEND SURF FNSH	001	10/8/2003
AR319D INJECTION	004	11/2/2009
AR319D OUTSOURCE WAX	002	4/25/2001
AR319D VEND PLASTIC A/F	003	8/24/2004
AR332A INJECTION	005	6/10/2004
AR334C INJECTION	004	5/31/2006
AR334C OUTSOURCE WAX (DIP READY)	002	4/25/2001
AR334C VEND CER CORE	006	8/11/2005
AR334C VEND PLASTIC A/F	003	9/6/2005
AR340A INJECTION	004	10/28/2010
AR340A SHP/REC HIP	002	11/23/2010
AR340V SHP/REC HIP	002	11/23/2010
AR342A INJECTION	006	11/2/2009
AR342A VEND PLASTIC A/F	006	3/30/2006
AR344A INJECTION	001	2/14/2012
AR347A INJECTION	007	11/17/2009
AR347A OUTSOURCE WAX	002	8/4/2011
AR347A OUTSOURCE WAX CMM	001	6/6/2008
AR347A VEND PLASTIC A/F	004	5/1/2009
AR349A INJECTION	004	4/5/2004
AR349A SHP/REC HIP	002	11/23/2010
AR351K INJECTION	002	6/18/2004
AR359B INJECTION	007	2/4/2008
AR359B SHP/REC EDM	001	8/6/2001
AR359B SHP/REC HIP	004	11/23/2010
AR359B VEND CER CORE	002	5/9/2006
AR359B VEND HEAT TREAT	003	9/29/2004
AR359V VEND HEAT TREAT	001	9/29/2004
AR361A INJECTION	003	8/11/2004
AR361A SHP/REC HIP	003	11/23/2010
AR372A INJECTION	002	5/4/2012
AR372A SHP/REC HIP	002	11/23/2010
AR376A INJECTION	003	7/8/2005



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR376A OUTSOURCE WAX	002	4/27/2001
AR376A VEND PLASTC A/F	003	7/6/2005
AR382B INJECTION	003	4/26/2011
AR382B LINE CHECK (WAX A/F)	002	12/17/2001
AR382B SHP/REC HIP	001	7/1/2011
AR382B SHP/REC MACHINE	002	10/15/2008
AR382V SHP/REC HIP	001	10/4/2010
AR384A INJECTION	011	11/2/2009
AR384A SHP/REC MACHINE EDM	003	2/28/2006
AR384A VEND CER CORE	005	11/16/2006
AR384B INJECTION	010	11/28/2009
AR384B SHP/REC EDM	002	5/21/2003
AR384B VEND CER CORE	005	11/16/2006
AR384D INJECTION	003	6/18/2004
AR384D SHP/REC HIP	004	11/23/2010
AR398B INJECTION	001	2/4/1999
AR406A INJECTION	009	11/2/2009
AR406A OUTSOURCE WAX (DIP READY)	002	1/10/2008
AR406A VEND PLASTIC A/F	005	10/23/2006
AR407B INJECTION	005	11/17/2011
AR407B OUTSOURCE WAX	002	4/25/2001
AR407B VEND PLASTIC A/F	003	7/6/2005
AR431A INJECTION	003	9/7/2007
AR431F INJECTION	005	4/26/2010
AR431F OUTSOURCE WAX (DIP READY)	006	10/1/2002
AR431F SHP/REC MACHINE CP	001	10/26/1999
AR431F VEND CER CORE	004	5/4/2009
AR431F VEND WAX SONIC	001	9/22/1999
AR447B INJECTION	003	12/6/2009
AR447B SOLUBLE PREP	001	3/5/1999
AR450B INJECTION	010	11/17/2011
AR450B VEND PLASTIC A/F	006	9/16/2011
AR463A INJECTION	004	8/10/2004
AR463A OUTSOURCE FIN/VIS	004	1/25/2006
AR463A OUTSOURCE WAX (DIP READY)	009	3/29/2005
AR463A SHP/REC FINISH	002	6/26/2002
AR463A SHP/REC HIP	003	5/17/2002
AR463A VEND FINISHING	001	5/27/2005
AR463A VEND HEAT TREAT	001	9/3/1999



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR463A VEND VISUAL INSP	001	5/27/2005
AR463A VEND WAX SONIC	004	8/1/2001
AR463A1 VEND CER CORE	005	8/28/2001
AR463A2 VEND CER CORE	004	8/3/2001
AR463B INJECTION	001	4/5/2006
AR463B OUTSOURCE WAX	008	6/1/2011
AR463B SHP/REC HIP	002	11/23/2010
AR463B VEND HEAT TREAT	001	4/5/2006
AR463B VEND WAX SONIC	003	10/20/2006
AR463B1 VEND CER CORE	002	12/13/2006
AR463B2 VEND CER CORE	002	12/13/2006
AR463S SHP/REC HIP	001	10/22/1999
AR463V1 VEND CER CORE	002	12/13/2006
AR463V2 VEND CER CORE	003	12/13/2006
AR463W SHP/REC HIP	002	11/23/2010
AR464A INJECTION	003	8/10/2004
AR464A OUTSOURCE WAX (DIP READY)	008	1/21/2005
AR464A SHP/REC N-RAY	002	11/18/2003
AR464A VEND CER CORE	007	11/14/2005
AR464A VEND WAX SONIC	004	2/7/2006
AR464B INJECTION	002	1/25/2010
AR464B OUTSOURCE WAX (DIPREADY)	003	4/30/2008
AR464B SHP/REC N-RAY	002	10/23/2008
AR464B VEND CER CORE	004	10/12/2011
AR464B VEND WAX SONIC	004	6/5/2009
AR464V VEND CER CORE	003	4/2/2009
AR513P INJECTION	002	6/25/2004
AR513P VEND PLASTIC A/F	003	4/17/2006
AR513Q INJECTION	005	11/2/2009
AR513Q VEND PLASTIC A/F	005	10/18/2005
AR513V INJECTION	002	6/25/2004
AR514H INJECTION	003	5/6/2009
AR514H SHP/REC EDM	005	11/5/2010
AR514H SHP/REC HIP	005	11/23/2010
AR514H VEND HEAT TREAT	002	9/29/2004
AR514H VEND PLASTIC A/F	004	10/12/2005
AR514V VEND HEAT TREAT	001	9/29/2004
AR515A INJECTION	010	5/2/2012
AR515A VEND PLASTIC A/F	003	9/6/2005



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR529C INJECTION	004	11/2/2009
AR530A INJECTION	002	5/6/2009
AR530A OUTSOURCE WAX	001	12/20/2007
AR530A SHP REC HIP	002	11/23/2010
AR530A VEND PLASTIC A/F	001	12/20/2007
AR534A INJECTION	004	3/1/2011
AR534A SHP/REC HIP	005	8/31/2011
AR534A SHP/REC MACH HT	001	6/16/2005
AR579B INJECTION	004	6/30/2006
AR579B SHP/REC EDM	001	10/19/1999
AR579B SHP/REC HIP	004	11/23/2010
AR579B VEND CER CORE	003	6/28/2006
AR579B VEND HEAT TREAT	003	9/29/2004
AR579F INJECTION	004	6/30/2006
AR579F SHP/REC EDM	001	7/10/2001
AR579F SHP/REC HIP	003	11/23/2010
AR579F VEND CER CORE	002	6/28/2006
AR579F VEND HEAT TREAT	003	9/29/2004
AR579V SHP/REC HIP	002	5/17/2002
AR579V VEND HEAT TREAT	001	9/29/2004
AR596A INJECTION	009	11/2/2009
AR596A OUTSOURCE XRAY INSP	001	10/17/2005
AR596A SHP/REC MACHINE HT	001	7/12/2005
AR596A VEND PLASTIC A/F	005	4/6/2009
AR602A SHP/REC HIP	004	11/23/2010
AR602B SHP/REC HIP	004	11/23/2010
AR603B INJECTION	006	11/2/2009
AR603B OUTSOURCE WAX	012	12/1/2011
AR603B OUTSOURCE XRAY INSP	001	10/17/2005
AR603B SHP/REC MACHINE HT	001	7/12/2005
AR603B VEND PLASTIC A/F	007	4/6/2009
AR606A INJECTION	012	5/18/2012
AR606A OUTSOURCE FIN/VIS	002	3/1/2007
AR606A SHP/REC FINISH	002	7/16/2007
AR606A VEND CER CORE	005	2/9/2010
AR606A VEND CORE PREP	003	4/4/2007
AR606A VEND FINISHING	001	9/22/2005
AR606A VEND VISUAL INSP	001	9/22/2005
AR606A VEND WAX SONIC	001	10/11/2002



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR606W VEND CER CORE	001	9/30/2005
AR610A SHP/REC HIP	002	7/7/2008
AR612D INJECTION	011	7/6/2011
AR612D SHP/REC HIP	004	3/17/2011
AR612D VEND PLASTIC A/F	003	3/17/2011
AR612D VEND QUARTZ	002	1/30/2003
AR612E INJECTION	005	7/5/2011
AR612E SHP/REC HIP	004	3/17/2011
AR612E VEND PLASTIC A/F	004	11/9/2011
AR612E VEND QUARTZ	001	5/29/2007
AR616A SHP/REC HIP	003	7/7/2008
AR619A SHP/REC HIP	001	2/16/2006
AR630J INJECTION	003	5/6/2009
AR630J SHP/REC EDM	004	11/5/2010
AR630J SHP/REC HIP	005	11/23/2010
AR630J VEND HEAT TREAT	002	9/29/2004
AR630J VEND PLASTIC A/F	003	10/12/2005
AR630W SHP/REC HIP	002	11/23/2010
AR630W VEND HEAT TREAT	001	9/29/2004
AR633A SHP/REC HIP	002	6/20/2008
AR645B INJECTION	008	8/4/2011
AR645B SHP/REC HIP	002	11/23/2010
AR645B VEND CER CORE	004	8/17/2006
AR645V SHP/REC HIP	002	11/23/2010
AR651C INJECTION	007	6/1/2007
AR651C OUTSOURCE WAX	001	5/30/2007
AR651C VEND PLASTIC A/F	004	9/30/2004
AR651D INJECTION	002	5/23/2007
AR651D VEND PLASTIC A/F	001	6/15/2007
AR653B INJECTION	008	8/4/2005
AR653B VEND PLASTIC A/F	004	8/1/2005
AR653C INJECTION	003	11/2/2009
AR653C OUTSOURCE WAX	005	8/4/2011
AR653C OUTSOURCE WAX CMM	001	6/6/2008
AR653C VEND PLASTIC A/F	004	4/6/2009
AR655C INJECTION	007	8/4/2011
AR655C OUTSOURCE WAX	001	7/2/2008
AR655C OUTSOURCE WAX CMM	001	4/30/2008
AR655C VEND PLASTIC A/F	004	4/6/2009



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR658B INJECTION	003	5/6/2009
AR658B SHP/REC EDM	001	10/19/1999
AR658B VEND PLASTIC A/F	003	10/12/2005
AR660L INJECTION	003	5/6/2009
AR660L SHP/REC EDM	006	7/20/2006
AR660L SHP/REC HIP	006	11/23/2010
AR660L VEND HEAT TREAT	002	11/9/2004
AR660L VEND PLASTIC A/F	004	10/12/2005
AR660V VEND HEAT TREAT	001	11/9/2004
AR684A INJECTION	009	6/8/2011
AR684A OUTSOURCE WAX	005	6/8/2011
AR684A SHP/REC HIP	004	11/3/2010
AR684A VEND CER CORE	004	11/23/2010
AR684A VEND PLASTIC A/F	004	4/6/2009
AR684A VEND SURF FNSH	001	2/20/2012
AR684V SHP/REC HIP	004	11/2/2010
AR685A INJECTION	005	6/8/2011
AR685A OUTSOURCE WAX	003	6/8/2011
AR685A SHP/REC HIP	004	11/2/2010
AR685A SHP/REC MACHINE	002	9/3/2008
AR685A VEND PLASTIC A/F	004	4/6/2009
AR685A VEND SURF FNSH	001	4/12/1999
AR685V SHP/REC HIP	004	11/2/2010
AR686A INJECTION	002	4/9/2012
AR686A OUTSOURCE WAX	001	2/17/2011
AR686A SHP/REC HIP	001	7/19/2010
AR686A SHP/REC MACH HT	001	6/16/2005
AR686A SOLUBLE PREP	001	2/20/2012
AR686A VEND SURF FNSH	001	2/23/2012
AR687A INJECTION	008	6/23/2008
AR687A SHP/REC HIP	002	11/11/2010
AR687A SHP/REC MACH HT	001	6/16/2005
AR687A VEND HEAT TREAT	001	5/26/2010
AR690B SHIP/REC HIP	001	7/29/2010
AR691A INJECTION	001	2/14/2012
AR691A SHP/REC HIP	003	11/11/2010
AR697A INJECTION	004	8/4/2005
AR697A OUTSOURCE WAX	004	4/25/2001
AR697A SHP/REC HIP	004	11/3/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR697A VEND PLASTIC A/F	004	7/29/2005
AR697A VEND SURF FNSH	001	2/20/2012
AR697V VEND SURF FNSH	001	10/12/2011
AR698A INJECTION	004	11/2/2009
AR698A OUTSOURCE WAX	005	2/17/2011
AR698A SHP/REC HIP	004	11/3/2010
AR698A VEND PLASTIC A/F	006	4/6/2009
AR698A VEND SURF FNSH	002	3/5/2012
AR699A SHP/REC HIP	002	8/20/2010
AR700D INJECTION	004	2/18/2010
AR700D VEND PLASTIC A/F	005	2/9/2010
AR701B INJECTION	005	11/2/2009
AR701B VEND PLASTIC A/F	006	4/6/2009
AR701B VEND QUARTZ	002	5/14/2012
AR704A INJECTION	003	9/6/2005
AR704A VEND PLASTIC A/F	003	8/25/2005
AR718A INJECTION	010	11/2/2009
AR718A SHP/REC MACH HT	001	6/16/2005
AR718A SHP/REC MACHINE EDM	003	2/28/2006
AR718A VEND CER CORE	005	11/16/2006
AR718B INJECTION	011	11/2/2009
AR718B SHP/REC EDM	002	5/21/2003
AR718B SHP/REC MACHINE HT	001	6/16/2005
AR718B VEND CER CORE	006	11/16/2006
AR724A INJECTION	002	6/18/2004
AR726A INJECTION	004	8/19/2005
AR726A VEND PLASTIC A/F	006	8/19/2005
AR726A VEND QUARTZ	003	10/16/2006
AR744A CMSX-3 VANE	004	4/27/2007
AR744A INJECTION	004	11/29/2006
AR754B INJECTION	006	11/2/2009
AR754B VEND PLASTIC A/F	007	4/6/2009
AR762F INJECTION	003	4/21/2006
AR762F OUTSOURCE WAX (DIPREADY)	004	8/14/2006
AR762F VEND CER CORE	003	4/6/2006
AR762G INJECTION	002	3/10/2008
AR762G OUTSOURCE WAX	010	3/5/2012
AR762G SHP/REC HIP	003	11/11/2010
AR762G VEND CER CORE	003	3/10/2008



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR762G VEND WAX SONIC	001	3/6/2009
AR762G VENDOR CORE PREP	001	5/14/2008
AR762W SHP/REC HIP	002	11/11/2010
AR768C CMSX-3 VANES	003	7/27/2010
AR768C INJECTION	004	7/25/2008
AR768C OUTSOURCE WAX (DIP READY)	005	1/27/2012
AR779A INJECTION	002	11/28/2009
AR779A OUTSOURCE WAX	002	11/7/2009
AR779A SHP/REC N-RAY	001	7/28/2009
AR779A VEND CER CORE	002	12/2/2009
AR779A VEND WAX SONIC	001	6/22/2009
AR783A INJECTION	004	11/2/2009
AR783A OUTSOURCE WAX	002	3/24/2011
AR783A SHP/REC HIP	002	11/4/2010
AR783A VEND PLASTIC A/F	004	4/6/2009
AR785C INJECTION	004	2/18/2010
AR785C OUTSOURCE FIN/VIS	001	3/18/2010
AR785C OUTSOURCE WAX	005	2/5/2010
AR785C SHP/REC HIP	002	11/3/2010
AR785C VEND CER CORE	008	4/27/2012
AR785C VEND CORE PREP	002	4/26/2012
AR785C VEND WAX SONIC	001	3/2/2009
AR818A INJECTION	002	5/23/2007
AR818A OUTSOURCE WAX	001	8/6/2007
AR818A VEND PLASTIC A/F	001	4/27/2012
AR819B INJECTION	003	7/27/2010
AR822B INJECTION	003	1/2/2007
AR822B OUTSOURCE WAX	003	4/6/2004
AR822B SHP/REC HIP	003	11/3/2010
AR822B VEND CER CORE	004	1/12/2009
AR822B VEND WAX SONIC	001	3/14/2012
AR822V SHP/REC HIP	003	11/3/2010
AR824B INJECTION	004	5/27/2011
AR824B SHP/REC MACHINE	001	10/26/1999
AR824B VEND PLASTIC A/F	005	1/29/2009
AR825B INJECTION	005	9/6/2005
AR825B VEND PLASTIC A/F	005	1/29/2009
AR856A INJECTION	004	5/6/2009
AR856A OUTSOURCE WAX	001	1/10/2008



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR856A VEND PLASTIC A/F	005	9/14/2004
AR856B INJECTION	001	2/22/2011
AR856B OUTSOURCE WAX	002	5/27/2011
AR856B VEND PLASTIC A/F	001	2/3/2011
AR857B INJECTION	005	5/6/2009
AR857B OUTSOURCE WAX	001	1/10/2008
AR857B VEND PLASTIC A/F	003	4/25/2012
AR857C INJECTION	001	2/22/2011
AR857C OUTSOURCE WAX	001	2/3/2011
AR857C VEND pLASTIC A/F	001	2/3/2011
AR860B INJECTION	002	7/6/2004
AR860B VEND CER CORE	002	2/9/2010
AR860C INJECTION	002	7/6/2004
AR860C OUTSOURCE WAX (DIP READY)	003	5/22/2002
AR860C SHP/REC HIP	003	11/11/2010
AR860C SHP/REC MACH HT	001	6/16/2005
AR860C SOLUBLE PREP	001	3/5/1999
AR860W SHP/REC HIP	002	11/11/2010
AR864A INJECTION	009	11/2/2009
AR864A OUTSOURCE WAX	011	11/1/2010
AR864A VEND PLASTIC A/F	007	6/9/2011
AR864B INJECTION	001	3/1/2010
AR864B OUTSOURCE WAX	001	11/3/2011
AR864B VEND PLASTIC A/F	001	3/3/2010
AR866A INJECTION	005	11/2/2009
AR866A VEND PLASTIC A/F	004	4/6/2009
AR877A INJECTION	002	3/18/2004
AR886A INJECTION	004	4/15/2009
AR886A VEND PLATIC A/F	004	4/6/2009
AR898A INJECTION	002	10/6/2003
AR898A SHP/REC HIP	003	11/11/2010
AR919C INJECTION	005	10/5/2009
AR919C VEND PLASTIC A/F	004	4/14/2009
AR979A INJECTION	002	4/27/2012
AR982A INJECTION	002	5/4/2012
AR982A SHP/REC EDM	001	4/25/2012
AR982A SHP/REC HIP	004	11/11/2010
AR982A VEND CER CORE	003	8/2/2007
AR982A VEND HEAT TREAT	002	4/25/2012



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
AR982V VEND HEAT TREAT	001	4/25/2012
AR994A INJECTION	003	5/6/2009
AR994A OUTSOURCE WAX (DIP READY)	002	9/13/2005
AR994A VEND PLASTIC A/F	003	3/8/2005
AR998A INJECTION	004	4/28/2005
AR998A OUTSOURCE WAX (DIP READY)	009	1/21/2005
AR998A SHP/REC N-RAY	002	10/17/2005
AR998A VEND CER CORE	005	4/19/2005
AR998A VEND WAX SONIC	003	4/19/2002
AR998B INJECTION	002	5/9/2012
AR998B OUTSOURCE WAX (DIP READY)	007	5/12/2011
AR998B SHP/REC N-RAY	002	10/23/2008
AR998B VEND CER CORE	005	10/12/2011
AR998B VEND WAX SONIC	001	11/8/2005
AR998V VEND CER CORE	003	12/21/2006
ARK272 SHP/REC HIP	001	11/30/2004
ARK272 VEND HEAT TREAT	001	12/8/2004
CN130B SHP/REC HIP	001	10/17/2006
CN230B SHP/REC HIP	001	10/17/2006
CN360A SHP/REC HIP	001	3/24/2006
CROSSARM	001	12/1/2009
CS114A INJECTION	003	3/2/2012
CS114A SHP/REC HIP	002	6/8/2010
CS114A VEND BLEND LIMITS	001	1/8/2010
CS114A VEND HEAT TREAT	001	8/4/2010
CS114A VEND VISUAL INSP	001	1/8/2010
CT918A SHP/REC HIP	001	5/13/2004
DC243A INJECTION	008	8/9/2011
DC245A INJECTION	004	7/13/2011
DC247A INJECTION	004	7/13/2011
DC321A INJECTION	009	7/13/2011
DC321A SHP/REC N-RAY	001	10/12/2005
DC321A VEND CER CORE	006	5/22/2007
DC380A INJECTION	003	7/13/2011
EL001T INJECTION	002	5/28/2003
EX9999 SHP/REC HIP	002	11/29/2004
FI040A INJECTION	002	3/8/2006
FI040A OUTSOURCE WAX	001	8/2/2005
FI040A SHP-REC MACHINE	002	8/14/2008



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
FI040A VEND PLASTIC A/F	001	8/1/2005
FI046B INJECTION	012	3/26/2010
FI046B OUTSOURCE WAX	005	1/12/2011
FI052A INJECTION	002	3/8/2006
FI052A OUTSOURCE WAX	001	8/2/2005
FI052A SHIP/REC DIMENSIONAL	001	3/11/2008
FI052A SHP-REC MACHINE	002	8/14/2008
FI052A VEND PLASTIC A/F	001	8/1/2005
FI052A VEND PRE-MACH INSP	001	6/20/2008
FI314A INJECTION	011	11/4/2010
FI314A SHP/REC MACHINE	004	8/14/2008
FI314A VEND CER CORE	004	2/11/2010
FI314U SHP/REC HIP	003	7/13/2010
FI317A INJECTION	013	7/12/2011
FI317A OUTSOURCE WAX	009	7/19/2005
FI317A SHP/REC HIP	003	4/4/2003
FI317A SHP/REC MICROWELD	001	10/23/2002
FI317A VEND PLASTIC A/F	009	7/7/2011
FI317B INJECTION	008	7/12/2011
FI317B OUTSOURCE WAX	006	7/12/2011
FI317B SHP/REC HIP	002	5/31/2006
FI317B SHP/REC MICROWELD	001	4/21/2004
FI317B VENDOR PLASTIC A/F	008	7/7/2011
FI318A INJECTION	012	5/28/2009
FI318A OUTSOURCE SOLUBLE	002	8/30/2007
FI318A OUTSOURCE WAX	012	4/22/2008
FI318A SHP/REC MICROWELD	002	8/30/2007
FI318A VEND PLASTIC A/F	008	2/8/2012
FI369A INJECTION	011	5/1/2009
FI369A SHP/REC MICROWELD	001	10/23/2002
FI369A VEND PLASTIC A/F	005	4/6/2009
G4VUC753E OUTSOURCE WAX	001	9/8/2009
GE012A INJECTION	004	5/6/2008
GE012A SHP/REC MACHINE	004	11/22/2006
GE012A SOLUBLE PREP	002	12/3/2003
GE054D INJECTION	007	12/12/2006
GE054D OUTSOURCE WAX	003	7/27/2010
GE054D VEND PLASTIC A/F	006	11/7/2011
GE054E INJECTION	007	12/14/2006



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
GE054E OUTSOURCE WAX	002	2/18/2010
GE054E VEND PLASTIC A/F	005	8/15/2005
GE054F INJECTION	005	12/1/2009
GE054F OUTSOURCE WAX	002	2/18/2010
GE054F VEND PLASTIC A/F	003	10/1/2007
GE054G INJECTION	003	12/1/2009
GE054G OUTSOURCE WAX	002	2/18/2010
GE054G VEND PLAST A/F	002	7/27/2005
GE054H INJECTION	005	4/5/2007
GE054H OUTSOURCE WAX	002	2/18/2010
GE054H VEND PLASTC A/F	005	6/9/2008
GE054J INJECTION	001	2/9/2011
GE054J OUTSOURCE WAX	001	1/31/2011
GE054J VEND PLASTIC A/F	002	6/16/2011
GE061E INJECTION	002	3/14/2007
GE061E OUTSOURCE WAX (DIP READY)	005	3/14/2007
GE061E VEND BLEND LIMITS	001	2/10/2005
GE061E VEND PLASTIC A/F	005	3/14/2007
GE061E VEND VISUAL INSP	001	2/10/2005
GE061G INJECTION	002	3/14/2007
GE061G OUTSOURCE WAX	002	3/14/2007
GE061G VEND PLASTC A/F	002	3/14/2007
GE061J INJECTION	004	8/6/2008
GE061J OUTSOURCE WAX	004	10/27/2008
GE061J VEND PLASTIC A/F	006	7/13/2010
GE073A INJECTION	004	10/12/2005
GE073A OUTSOURCE WAX	007	11/5/2010
GE073A SHP/REC HIP	007	8/22/2009
GE073A VEND HEAT TREAT	002	9/3/2004
GE073A VEND PLASTIC A/F	006	10/19/2007
GE082A INJECTION	001	2/14/2012
GE082A VEND CER CORE	001	7/13/2011
GE141A VEND CER CORE	003	3/27/2012
GE210A SHP/REC HIP	001	5/25/2012
GE237B SHP/REC HIP	002	6/16/2010
GE237C INJECTION	001	5/10/2011
GE237C SHP/REC HIP	002	6/16/2010
GE237C VEND PLASTIC A/F	001	5/11/2011
GE237D INJECTION	001	6/10/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
GE237D OUTSOURCE WAX	001	6/10/2011
GE237D SHP/REC HIP	001	8/10/2011
GE237D VEND PLASTIC A/F	001	6/6/2011
GE373A INJECTION	001	1/18/2012
GE373A OUTSOURCE WAX	001	3/5/2012
GE373A SHP/REC HIP	001	8/24/2011
GE373B SHP/REC HIP	001	8/24/2011
GE386A INJECTION	001	6/15/2006
GE386A VEND PLASTIC A/F	001	6/16/2006
GE386B INJECTION	001	6/15/2006
GE386B VEND PLASTIC A/F	001	6/16/2006
GE386C INJECTION	001	6/15/2006
GE386C VEND PLASTIC A/F	001	6/16/2006
GE434A SHP/REC HIP	002	1/13/2012
GE439A INJECTION	001	3/1/2012
GE439A SHP/REC HIP	002	9/27/2011
GE449C INJECTION	003	6/18/2004
GE449C OUTSOURCE WAX (DIP READY)	005	11/22/2004
GE449C SHP/REC HIP	003	6/11/2002
GE449C SOLUBLE PREP	005	10/24/2011
GE449F INJECTION	003	3/19/2004
GE449F OUTSOURCE WAX (DIP READY)	006	11/22/2004
GE449F SHP/REC HIP	004	6/11/2002
GE449F SOLUBLE PREP	004	4/29/2004
GE516B INJECTION	002	6/15/2004
GE542B INJECTION	001	7/16/2003
GE542B OUTSOURCE WAX	008	5/4/2005
GE542B VEND PLASTIC A/F	003	8/8/2005
GE556A INJECTION	001	12/16/2008
GE556A OUTSOURCE WAX	004	7/22/2010
GE556A SHP-REC MACHINE	001	6/24/2009
GE556A VEND PLASTIC A/F	001	12/5/2008
GE556B INJECTION	001	7/12/2011
GE556B OUTSOURCE WAX	001	7/12/2011
GE556B VEND PLASTIC A/F	001	6/8/2011
GE556D INJECTION	001	6/6/2011
GE556D OUTSOURCE WAX	002	8/30/2011
GE556D SHP/REC MACHINE	001	7/5/2011
GE556D VEND PLASTIC A/F	003	8/10/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
GE586C INJECTION	005	10/22/2008
GE586C SHP/REC HIP	004	11/14/2008
GE586C SOLUBLE PREP	003	10/22/2008
GE628A INJECTION	002	2/22/2011
GE628A SHP/REC HIP	002	3/17/2011
GE628A SHP/REC MACHINE	001	2/9/2010
GE628A VEND CER CORE	002	11/28/2009
GE628V SHP/REC HIP	002	12/8/2009
GE673B INJECTION	001	9/27/2011
GE673B SHP/REC HIP	001	3/25/2011
GE673B VEND CER CORE	004	3/27/2012
GE844D INJECTION	004	11/23/2009
GE844D OUTSOURCE WAX	003	7/11/2011
GE844D VEND PLASTIC A/F	006	10/1/2007
GE844E INJECTION	005	11/23/2009
GE844E OUTSOURCE WAX	002	2/18/2010
GE844E VEND PLASTIC A/F	003	11/24/2004
GE866A INJECTION	004	8/5/2011
GE866A OUTSOURCE WAX	005	3/8/2005
GE866A VEND PLASTIC A/F	007	8/5/2011
GE944C INJECTION	003	8/8/2005
GE944C OUTSOURCE WAX (DIP READY)	010	1/10/2007
GE944C VEND PLASTIC A/F	005	8/8/2005
GE944D INJECTION	003	4/18/2012
GE944D OUTSOURCE WAX (DIP READY)	010	8/15/2011
GE944D VEND PLASTIC A/F	003	4/16/2012
GE944E INJECTION	003	8/8/2005
GE944E OUTSOURCE WAX	005	1/10/2007
GE944E VEND PLASTIC A/F	004	8/4/2005
GE944F INJECTION	004	4/18/2012
GE944F OUTSOURCE WAX (DIP READY)	014	11/17/2011
GE944F VEND PLASTIC A/F	005	4/16/2012
GE964C INJECTION	002	6/19/2008
GE964C OUTSOURCE WAX	005	12/5/2008
GE964C VEND PLASTIC A/F	003	6/24/2011
GE964G INJECTION	001	11/7/2011
GE964G OUTSOURCE WAX	001	11/21/2011
GE964G VEND PLASTIC A-F	001	11/4/2011
GE-AV SUPPLIER FLOWDOWN	003	5/21/2012



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
GM235A HEAT TREAT	002	4/30/2012
GM235A INJECTION	002	3/15/2012
GM235A OUTSOURCE WAX	004	5/18/2012
GM235A SHP/REC HIP	002	7/12/2011
GM235A VEND PLASTIC A/F	002	5/16/2011
GM929A INJECTION	003	11/2/2009
GM929A OUTSOURCE WAX	002	12/22/2006
GM929A SHP\REC HIP	001	11/10/2006
GM929A VEND PLASTC A/F	002	10/30/2009
HF111D INJECTION	001	9/28/2011
HF111D SHP-REC FIN-VIS	001	1/13/2012
HF111D VEND CER CORE	001	9/26/2011
HF111D VEND CORE PREP	001	9/26/2011
HF111D VEND WAX SONIC	001	9/26/2011
HF151B INJECTION	007	10/24/2007
HF151B VEND CER CORE	003	5/2/2006
HF151D INJECTION	001	9/28/2011
HF151D VEND CER CORE	001	9/26/2011
HF251C INJECTION	002	7/19/2004
HF251C VEND CER CORE	001	7/27/2001
HF251C VEND WAX SONIC	001	7/27/2001
HF451D INJECTION	001	10/24/2011
HF451D VEND CER CORE	001	10/25/2011
HF451D VEND CORE PREP	001	10/25/2011
HF451F INJECTION	001	9/28/2011
HF451F VEND CER CORE	001	9/28/2011
HF451F VEND CORE PREP	001	9/28/2011
HF451G INJECTION	001	9/28/2011
HF462C INJECTION	001	9/28/2011
HF462C SHP/REC CNC	001	9/28/2011
HF462C SHP/REC COATING	001	9/28/2011
HF462C VEND CER CORE	001	9/28/2011
HF551F INJECTION	001	9/29/2011
HF551F VEND CER CORE	001	9/29/2011
HF751E INJECTION	001	11/21/2011
HF751E OUTSOURCE COREPREP	001	11/15/2011
HF751E VEND CER CORE	001	11/15/2011
HF851F INJECTION	001	11/4/2011
HF851F OUTSOURCE CORE PREP	001	11/4/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
HF851F VEND CER CORE	001	11/4/2011
HF952B INJECTION	003	5/27/2004
HF952C INJECTION	003	7/19/2004
HL615A INJECTION	001	4/3/2002
HL999E OUTSOURCE WAX	002	4/10/2012
HL999F OUTSOURCE WAX	002	4/10/2012
HL999G OUTSOURCE WAX	002	4/10/2012
HP361C INJECTION	002	7/19/2004
HQ013B INJECTION	002	7/14/2004
HQ013B SHP/REC HIP	002	12/16/2004
HQ013B VEND CER CORE	001	3/15/2012
HQ017H INJECTION	001	2/13/2012
HQ017H SHP/REC MACHINE	001	10/29/1999
HQ030A SHP/REC HIP	001	9/30/2002
HQ038C SHP/REC HIP	001	9/30/2002
HQ044A SHP/REC HIP	002	1/17/2006
HQ045A VEND HEAT TREAT	001	11/16/2004
HQ047A VEND HEAT TREAT	001	11/16/2004
HQ047B VEND HEAT TREAT	001	11/16/2004
HQ088B SHP/REC HIP	001	10/22/2004
HQ088B VEND HEAT TREAT	001	8/3/2010
HQ115B INJECTION	001	2/13/2012
HQ115B SHP/REC EDM	001	10/19/1999
HQ132A SHP/REC HIP	001	9/24/2004
HQ144C SHP/REC HIP	001	9/30/2002
HQ207B SHP/REC HIP	003	2/15/2006
HQ221A SHP/REC HIP	001	9/24/2004
HQ250D SHP/REC EDM	001	9/16/2010
HQ268A SHP/REC HIP	001	9/24/2004
HQ272K SHP/REC EDM	001	2/13/2008
HQ272K SHP/REC HIP	001	1/7/2008
HQ303B SHP/REC EDM	001	3/23/2006
HQ303B SHP/REC HIP	002	3/23/2006
HQ305B INJECTION	001	2/13/2012
HQ305B SHP/REC HIP	001	10/22/1999
HQ305B VEND CER CORE	001	3/15/2012
HQ310A SHP/REC HIP	002	4/12/2011
HQ359B SHP/REC HIP	001	9/30/2002
HQ361A SHP/REC HIP	001	3/1/2005



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
HQ372A SHP/REC HIP	001	2/18/2009
HQ379A SHP/REC HIP	001	10/1/2002
HQ449F SHP/REC HIP	001	9/13/2004
HQ514H SHP/REC EDM	001	3/23/2006
HQ514H SHP/REC HIP	002	3/23/2006
HQ579B INJECTION	001	2/13/2012
HQ579B SHP/REC HIP	001	10/22/1999
HQ579B VEND CER CORE	002	7/19/2006
HQ579B VEND HEAT TREAT	002	3/11/2003
HQ579F SHP/REC HIP	001	9/24/2004
HQ630J SHP/REC EDM	001	3/23/2006
HQ630J SHP/REC HIP	002	3/23/2006
HQ660L SHP/REC EDM	003	7/20/2006
HQ660L SHP/REC HIP	002	3/23/2006
HQ839B SHP_REC HIP	001	2/15/2008
HQ945A SHP/REC HIP	001	9/30/2002
HQ949A SHP/REC HIP	001	10/1/2002
HQ982A SHP/REC HIP	001	10/22/1999
HQ998A SHP/REC HIP	001	10/1/2002
HUB FILTER VEND HUB FILTER	001	7/19/2004
IP020A INJECTION	003	12/16/2004
IP020A OUTSOURCE WAX (DIP READY)	008	11/18/2008
IP020A SHP/REC HIP	001	3/11/1999
IP020A VEND PLASTIC A/F	003	12/9/2004
IP234A SHP-REC HIP	002	9/30/2011
IR200A INJECTION	002	4/23/2012
IR679A SHP/REC HIP	003	2/26/2004
IR679V SHP/REC HIP	001	5/29/2002
KG749B INJECTION	005	5/23/2012
KG749B SHP/REC EDM	002	4/12/2012
KG749B SHP/REC HIP	006	4/4/2011
KG749B SHP/REC MACHINE	002	3/19/2012
LY004K INJECTION	006	2/12/2008
LY004K OUTSOURCE WAX	002	2/12/2008
LY004L INJECTION	008	8/4/2011
LY007C INJECTION	003	4/9/2012
LY039A INJECTION	003	7/28/2005
LY039A OUTSOURCE WAX	004	8/16/2005
LY039A VEND CORE PREP	001	5/11/2012



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
LY039A VEND PLASTIC A/F	004	8/15/2005
LY039A VEND QUARTZ	003	5/21/2012
LY046B INJECTION	002	8/31/2005
LY046B OUTSOURCE WAX	002	8/8/2007
LY046B VEND PLASTIC A/F	003	8/29/2005
LY047D INJECTION	002	4/9/2012
LY172E INJECTION	006	11/2/2009
LY172E OUTSOURCE FIN/VIS	001	9/17/2004
LY172E OUTSOURCE WAX	005	6/5/2008
LY172E SHP/REC FIN/VIS	003	9/17/2004
LY172E VEND CER CORE	008	6/10/2008
LY172E WAX ASSEMBLY (DIP READY) (OUT/IN)	007	2/6/2006
LY172F INJECTION	006	11/2/2009
LY172F OUTSOURCE FIN/VIS	002	7/6/2005
LY172F OUTSOURCE WAX	005	4/16/2010
LY172F OUTSOURCE XRAY INSP	001	10/17/2005
LY172F SHP/REC FIN/VIS	007	2/6/2007
LY172F SHP/REC METAL CMM	003	4/11/2007
LY172F VEND CER CORE	008	2/5/2010
LY172F VEND METAL CMM	001	2/14/2007
LY172F WAX ASSEMBLY (DIP READY) (OUT/IN)	010	4/28/2006
LY172M INJECTION	009	4/9/2012
LY172M OUTSOURCE FIN/VIS	001	9/17/2004
LY172M OUTSOURCE WAX	004	2/15/2012
LY172M SHP/REC FIN/VIS	005	3/14/2006
LY172M SHP/REC MACHINE	002	9/17/2004
LY172M VEND CER CORE	012	12/2/2009
LY172M VEND WAX SONIC	003	6/10/2002
LY172N INJECTION	007	4/18/2006
LY172N OUTSOURCE FIN/VIS	002	7/6/2005
LY172N OUTSOURCE WAX	004	1/7/2011
LY172N SHP/REC FIN/VIS	004	2/27/2006
LY172N VEND CER CORE	013	12/2/2009
LY172N VEND WAX SONIC	003	10/7/2002
LY198B INJECTION	004	11/2/2009
LY198B OUTSOURCE WAX (DIP READY)	004	8/8/2011
LY198B VEND CER CORE	004	8/17/2011
LY198B VEND PLASTIC A/F	003	7/21/2005
LY255C INJECTION	003	7/14/2004



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
LY497B INJECTION	003	5/21/2003
LY497B OUTSOURCE FIN/VIS	001	6/8/2005
LY497B OUTSOURCE WAX (DIP READY)	008	4/19/2010
LY497B OUTSOURCE XRAY INSP	001	10/17/2005
LY497B SHP/REC FIN/VIS	001	5/19/2005
LY497B SHP/REC HIP	004	11/3/2010
LY497B VEND BLEND LIMITS	001	8/20/2008
LY497B VEND CER CORE	006	4/17/2010
LY497B VEND FIN/VIS	001	9/26/2008
LY497B VEND VISUAL INSP	001	8/28/2008
LY497B VEND WAX SONIC	002	8/22/2001
MN004B INJECTION	006	11/10/2008
MN004B SHP/REC MACHINE HT	003	3/6/2008
MN004B SHP/REC MACHINE TM	009	2/13/2009
MN004B SHP/REC MICROWELD	003	12/11/2008
MN004B VEND MACHINE TM	001	2/13/2009
MN004B VEND PLASTIC A/F	003	10/18/2004
MN009C INJECTION	006	1/7/2009
MN009C SHP/REC MACHINE DM	007	2/13/2009
MN009C SHP/REC MICROWELD	003	1/16/2009
MN009C VEND MACHINE DM	001	2/13/2009
MN009C VEND PLASTIC A/F	002	1/8/2007
MN012A INJECTION	001	6/1/2005
MN012A OUTSOURCE WAX	002	4/3/2008
MN012A SHP/REC DIMENSIONAL	002	2/13/2009
MN012A SHP/REC HIP	001	5/10/2006
MN012A SHP/REC MACHINE DM	006	1/16/2009
MN012A VEND DIMENSIONAL	001	2/13/2009
MN012A VEND PRE-MACH INSP	001	6/16/2008
MN012B INJECTION	004	11/10/2008
MN012B OUTSOURCE WAX	002	3/28/2008
MN012B OUTSOURCE WAX CMM	001	4/14/2008
MN012B SHP/REC DIMENSIONAL	002	2/13/2009
MN012B SHP/REC HIP	001	8/22/2006
MN012B SHP/REC MACHINE DM	007	1/16/2009
MN012B VEND DIMENSIONAL	001	2/13/2009
MN012B VEND PLASTIC A/F	002	5/5/2008
MN012B VEND PRE-MACH INSP	001	6/16/2008
MN012V SHP/REC HIP	001	5/10/2006



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
MN026A INJECTION	002	7/7/2011
MN026A OUTSOURCE WAX	001	4/27/2009
MN026A SHP/REC MACHINE DM	001	6/5/2009
MN026A SHP/REC PRE-MACHINE INSP	001	6/5/2009
MN026A VEND MACHINE	001	6/9/2009
MN026A VEND PRE-MACHINE INSP	001	6/5/2009
MN026A VENDOR PLASTIC A/F	002	3/18/2010
MN060A INJECTION	007	2/25/2011
MN060A SHP/REC MACHINE HT	002	2/23/2008
MN060A SHP/REC MACHINE TM	015	2/13/2009
MN060A SHP/REC MICROWELD	003	1/16/2009
MN060A VEND MACHINE TM	001	2/13/2009
MN060A VEND PLASTIC A/F	001	6/6/2011
MN060A VEND WAX CMM	002	9/1/2000
MN062A INJECTION	008	6/10/2009
MN062A OUTSOURCE WAX	005	6/10/2008
MN062A SHP/REC HIP	007	4/4/2011
MN062A SHP/REC MACHNE	007	2/13/2009
MN062A VEND MACHINE	002	6/24/2009
MN062A VEND PLASTIC A/F	006	6/10/2008
MN113B INJECTION	004	2/25/2011
MN113B SHP/REC HIP	006	6/16/2010
MN113B SHP/REC MACHINE	010	2/13/2009
MN113B VEND MACHINE	001	2/13/2009
MN113B VEND PLASTIC A/F	004	12/17/2010
MN113U SHP/REC HIP	006	6/16/2010
MN113V SHP/REC HIP	005	6/16/2010
MN114A INJECTION	009	2/25/2011
MN114A SHP/REC MACHINE	010	2/13/2009
MN114A VEND MACHINE	002	6/27/2009
MN114A VEND PLASTIC A/F	005	12/17/2010
MN122A INJECTION	004	1/27/2012
MN122A SHP/REC MACHINE	001	11/5/2010
MN122A VEND MACHINE	001	10/22/2010
MN154A INJECTION	009	2/25/2011
MN154A SHP/REC HIP	011	4/4/2011
MN154A SHP/REC MACHINE	013	2/13/2009
MN154A VEND MACHINE	002	7/10/2009
MN154A VEND PLASTIC A/F	006	5/4/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
MN154U SHP/REC HIP	007	6/16/2010
MN173A INJECTION	006	2/23/2011
MN173A SHP/REC MACHINE	010	2/13/2009
MN173A VEND CER CORE	002	4/18/2006
MN173A VEND MACHINE	001	2/13/2009
MN173A VEND PLASTIC A/F	004	12/17/2010
MN185A INJECTION	007	2/25/2011
MN185A SHP/REC HIP	005	6/16/2010
MN185A SHP/REC MACHINE DM	017	2/13/2009
MN185A VEND MACHINE DM	001	2/13/2009
MN185A VEND PLASTIC A/F	007	5/4/2011
MN185A VEND PRE-MACH INSP	001	11/25/2008
MN185V SHP/REC HIP	001	6/16/2010
MN303A INJECTION	006	11/23/2010
MN303A OUTSOURCE WAX	004	5/27/2011
MN303A SHP-REC HIP	004	6/15/2011
MN303A SHP-REC MACHINE	007	2/13/2009
MN303A VEND MACHINE	007	8/20/2011
MN303A VEND PLASTIC A/F	003	6/10/2011
MN303V SHP-REC HIP	004	4/4/2011
MN304A INJECTION	007	6/8/2011
MN304A OUTSOURCE WAX	004	7/12/2011
MN304A SHP-REC HIP	003	4/4/2011
MN304A SHP-REC MACHINE	008	6/5/2009
MN304A VEND MACHINE	003	6/27/2009
MN304A VEND PLASTIC A/F	002	11/10/2008
MN304V SHP-REC HIP	004	4/4/2011
MN305A INJECTION	006	5/4/2011
MN305A OUTSOURCE WAX	007	2/20/2012
MN305A SHP-REC HIP	002	6/16/2010
MN305A SHP-REC MACHINE	009	2/13/2009
MN305A SHP-REC_DIM	002	11/18/2008
MN305A VEND MACHINE	004	11/4/2011
MN305A VEND PLASTIC A/F	003	1/29/2009
MN305A VEND PRE-MACH INSP	002	11/25/2008
MN305V SHP-REC HIP	003	6/16/2010
PW009C SHP/REC HIP	001	5/10/2011
PW009V SHP/REC HIP	003	5/16/2011
PW024C INJECTION	003	6/30/2004



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
PW024C OUTSOURCE WAX	003	11/5/2001
PW024C SHP/REC HIP	006	11/4/2010
PW024C SHP/REC MACHINE TM	006	8/25/2006
PW024C VEND CER CORE	002	9/14/2001
PW024C VEND CUTOFF	002	11/6/2001
PW024C VEND WAX SONIC	002	11/5/2001
PW024V SHP/REC HIP	003	11/3/2010
PW024W SHP/REC HIP	002	11/3/2010
PW026A SHP/REC HIP	002	2/16/2006
PW026B INJECTION	001	9/27/2006
PW026B SHP/REC HIP	001	6/22/2006
PW026V SHP/REC HIP	001	6/22/2006
PW044A INJECTION	003	4/10/2006
PW044A OUTSOURCE WAX	005	11/5/2002
PW044A SHP/REC HIP	006	1/17/2006
PW044A SHP/REC MACHINE DM	003	10/13/2000
PW055A SHP/REC HIP	001	6/22/2007
PW057D SHP/REC HIP	003	11/4/2008
PW058E VEND PLASTIC A/F	001	2/14/2012
PW093A INJECTION	003	2/25/2011
PW093A SHP/REC HIP	006	11/3/2010
PW093A VEND BLEND LIMITS	001	7/25/2008
PW093A VEND PLASTIC A/F	005	4/8/2009
PW093A VEND VISUAL INSP	001	7/25/2008
PW094A INJECTION	003	3/8/2012
PW094A SHP/REC HIP	009	11/3/2010
PW094A SHP/REC MACHINE FM	001	9/17/2004
PW094A VEND BLEND LIMITS	001	7/25/2008
PW094A VEND PLASTIC A/F	005	4/8/2009
PW094A VEND VISUAL INSP	001	7/25/2008
PW110B INJECTION	002	4/30/2012
PW110B OUTSOURCE WAX (DIP READY)	006	5/3/2011
PW110B SHP/REC EDM	002	4/25/2012
PW110B SHP/REC MACH HT	001	4/30/2012
PW110B VEND PLASTIC A/F	005	8/22/2009
PW112B SHP/REC HIP	001	1/12/2012
PW113A INJECTION	006	8/26/2009
PW113A SHP/REC MACHINE	001	11/22/1999
PW113A SHP/REC MACHINE HT	002	6/20/2005



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
PW113A VEND PLASTIC A/F	002	8/24/2009
PW113A VEND WAX CMM M	001	10/14/1999
PW113A VEND WAX CMM TE	001	10/14/1999
PW132C INJECTION	003	6/30/2004
PW132C OUTSOURCE WAX	002	10/31/2001
PW132C SHP/REC HIP	005	11/3/2010
PW132C SHP/REC MACHINE TM	005	1/4/2008
PW132C VEND CER CORE	003	10/31/2001
PW180C INJECTION	005	10/2/2001
PW180C SHP/REC HIP	006	11/3/2010
PW195B INJECTION	002	4/23/2012
PW195B SHP/REC MACHINE HT	001	1/26/2000
PW195B SHP/REC MACHINETM	002	9/18/2008
PW195B VEND PLASTC A/F	004	2/18/2009
PW226B INJECTION	005	10/5/2009
PW226B SHP/REC MACHINE HT	001	1/26/2000
PW226B SHP/REC MACHINE TM	001	11/23/1999
PW226B VEND PLASTIC A/F	002	8/21/2009
PW226C INJECTION	003	6/5/2010
PW246A SHP/REC HIP	001	9/2/2011
PW258D VEND PLASTIC A/F	001	5/12/2010
PW273V SHP/REC HIP	001	8/19/2009
PW279V SHP/REC HIP	001	7/30/2009
PW303A SHP/REC HIP	004	12/2/2011
PW303V SHP/REC HIP	004	12/2/2011
PW311B INJECTION	002	5/1/2012
PW311B OUTSOURCE WAX (DIP READY)	006	5/6/2011
PW311B SHP/REC EDM	002	11/18/2002
PW311B SHP/REC MACH HT	001	10/26/2004
PW311B VEND PLASTIC A/F	004	8/22/2009
PW311B VEND WAX CMM	001	3/17/2000
PW312A INJECTION	002	8/10/2004
PW312A OUTSOURCE WAX (DIPREADY)	005	5/3/2011
PW312A SHP/REC EDM	002	11/18/2002
PW312A SHP/REC MACH HT	001	10/26/2004
PW312A VEND PLASTIC A/F	005	8/22/2009
PW312A VEND WAX CMM	001	10/13/1999
PW353A SHP/REC HIP	001	3/21/2011
PW353V SHP/REC HIP	002	2/11/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
PW364A INJECTION	004	6/30/2004
PW364A SHP/REC HIP	005	11/3/2010
PW376V SHP/REC HIP	002	2/11/2011
PW379A SHP/REC HIP	001	2/25/2008
PW454A SHP/REC HIP	001	7/18/2005
PW454B OUTSOURCE WAX	001	11/27/2007
PW454B SHP/REC HIP	001	11/29/2006
PW454B VEND CER CORE	001	12/3/2007
PW454B VEND WAX SONIC	002	3/29/2007
PW454C SHP-REC HIP	001	10/1/2007
PW454V SHP/REC HIP	001	4/5/2006
PW457D INJECTION	001	8/16/2004
PW457D OUTSOURCE WAX	001	8/6/2004
PW457D VEND PLASTIC A/F	001	8/6/2004
PW458D INJECTION	001	8/16/2004
PW458D OUTSOURCE WAX	003	7/7/2011
PW458D VEND PLASTIC A/F	001	8/6/2004
PW459C INJECTION	002	2/14/2005
PW459C SHP/REC MACHINE GW	002	12/3/2002
PW459C SHP/REC MACHINE HT	003	6/20/2005
PW459C VEND PLASTC A/F	008	2/18/2009
PW459C VEND QUARTZ	006	9/1/2004
PW463B SHP/REC HIP	001	9/30/2011
PW463B SHP/REC MICROWELD	001	5/1/2012
PW542A INJECTION	002	5/18/2004
PW542A OUTSOURCE WAX (DIP READY)	004	12/2/2009
PW542A SHP/REC MACHINE DM	002	2/10/2005
PW542A SHP/REC MACHINE HT	001	6/20/2005
PW542A SOLUBLE PREP	001	2/13/2012
PW557A INJECTION	002	1/31/2006
PW557A OUTSOURCE WAX (DIP READY)	005	4/16/2009
PW557A SHP/REC MACHINE HT	002	6/20/2005
PW557A VEND PLASTIC A/F	003	1/31/2006
PW558A INJECTION	002	2/16/2006
PW558A OUTSOURCE WAX (DIP READY)	008	8/15/2011
PW558A SHP/REC HIP	003	6/11/2002
PW558A SHP/REC MACHINE HT	002	6/20/2005
PW558A VEND PLASTIC A/F	005	2/18/2009
PW559G INJECTION	003	12/15/2006



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
PW559G SHP/REC MACH TM	002	11/21/2002
PW559G SHP/REC MACHINE HT	001	8/9/2005
PW559G VEND BLEND LIMITS	001	8/11/2008
PW559G VEND PLASTIC A/F	005	2/18/2009
PW559G VEND PLASTIC CAP	002	3/29/2005
PW559G VEND QUARTZ	004	9/1/2004
PW559G VEND VISUAL INSP	001	8/11/2008
PW605G INJECTION	001	3/27/2007
PW605G OUTSOURCE WAX	001	3/30/2007
PW605G SHP-REC HIP	003	6/7/2011
PW605G VEND CER CORE	001	7/30/2008
PW605G VEND HEAT TREAT	002	10/7/2008
PW605G VEND WAX SONIC	001	3/29/2007
PW605V SHP/REC HIP	001	3/10/2009
PW613B INJECTION	005	12/13/2010
PW613B SHP/REC MACHINE HT	002	6/20/2005
PW613B SHP/REC MACHINE TM	001	11/24/1999
PW613B VEND PLASTC A/F	003	3/8/2005
PW613B VEND WAX CMM	001	10/14/1999
PW613C INJECTION	006	11/22/2010
PW613C SHP/REC MACHINE HT	001	5/23/2005
PW613C SHP/REC MACHINE TM	002	5/5/2008
PW613C VEND PLASTC A/F	005	2/18/2009
PW631A INJECTION	001	5/26/2005
PW631A OUTSOURCE WAX	001	5/26/2005
PW631A SHP/REC HIP	004	1/10/2006
PW631V SHP/REC HIP	001	7/5/2005
PW655C SHP-REC MICROWELD	002	1/10/2012
PW655D SHP/REC MICROWELD	001	12/2/2011
PW702A SHP/REC HIP	002	3/21/2011
PW702V SHP/REC HIP	002	2/11/2011
PW714A INJECTION	002	8/10/2004
PW714A OUTSOURCE WAX (DIP READY)	005	5/3/2011
PW714A SHP/REC EDM	002	11/18/2002
PW714A SHP/REC MACH HT	001	10/26/2004
PW714A VEND PLASTIC A/F	005	8/22/2009
PW714A VEND WAX CMM	001	10/14/1999
PW719V SHP/REC HIP	001	3/3/2003
PW720C INJECTION	002	1/23/2003



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
PW720C LINE CHECK	003	3/3/2003
PW720C SHP/REC HIP	005	2/5/2004
PW761B SHP/REC HIP	001	2/16/2012
PW762B INJECTION	003	4/7/2004
PW762B OUTSOURCE WAX	003	5/9/2012
PW762B SHIP/REC MACHINE TM	003	9/18/2008
PW762B SHP/REC MACHINE DP	005	10/3/2008
PW762B SOLUBLE PREP	001	3/8/1999
PW762B VEND CER CORE	003	8/5/2002
PW767B INJECTION	001	11/5/2007
PW767B VEND PLASTIC A/F	002	2/18/2009
PW857E INJECTION	004	10/14/2005
PW857E SHP/REC MACHINE HT	002	6/20/2005
PW857E SHP/REC MACHINE TM	001	12/3/1999
PW857E VEND BLEND LIMITS	001	4/14/2008
PW857E VEND PLASTC A/F	004	9/15/2005
PW857E VEND VISUAL INSP	001	4/14/2008
PW858F INJECTION	006	8/18/2010
PW858F SHP/REC MACHINE HT	002	6/20/2005
PW858F SHP/REC MACHINE TM	002	6/8/2006
PW858F VEND BLEND LIMITS	001	10/1/2008
PW858F VEND PLASTC A/F	006	6/15/2011
PW858F VEND VISUAL INSP	001	10/1/2008
PW859E INJECTION	001	4/23/2012
PW859E SHP/REC MACHINE HT	002	6/10/2008
PW859E SHP/REC MACHINE TM	002	3/28/2007
PW859E VEND BLEND LIMITS	001	10/1/2008
PW859E VEND PLASTIC A/F	003	2/18/2009
PW859E VEND VISUAL INSP	001	10/1/2008
PW859J SHP/REC HIP	004	2/20/2008
PW860A INJECTION	005	11/28/2009
PW860A SHP/REC MACHINE HT	002	6/20/2005
PW860A SHP/REC MACHINE TM	001	1/17/2000
PW860A VEND BLEND LIMITS	001	4/14/2008
PW860A VEND PLASTC A/F	004	2/18/2009
PW860A VEND VISUAL INSP	001	4/14/2008
PW860V INJECTION	001	3/10/1999
PW861B INJECTION	004	9/18/2008
PW861B SHP/REC HIP	008	4/27/2012



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
PW861B SHP/REC MACHINE HT	002	6/20/2005
PW861B SHP/REC MACHINE TM	001	3/13/2000
PW861B VEND BLEND LIMITS	001	4/14/2008
PW861B VEND PLASTC A/F	005	11/10/2010
PW861B VEND VISUAL INSP	001	4/14/2008
PW895B INJECTION	004	2/28/2007
PW895B LINE CHECK	001	10/16/2003
PW895B SHP/REC MACHINE TM	002	10/8/2008
PW895B SHP-REC MACHINE HT	001	4/16/2008
PW895B VEND BLEND LIMITS	001	5/11/2011
PW895B VEND PLASTC A/F	005	2/18/2009
PW895B VEND VISUAL INSP	001	5/11/2011
PW919C INJECTION	006	2/4/2008
PW919C OUTSOURCE WAX	005	9/19/2001
PW919C SHP/REC HIP	005	11/3/2010
PW919C SHP/REC MACHINE DM	004	9/19/2001
PW919C VEND CER CORE	004	9/19/2001
PW919C VEND HEAT TREAT	004	9/21/2001
PW933A SHP/REC HIP	002	2/11/2011
PW933B SHP/REC HIP	001	3/9/2011
PW945A INJECTION	005	7/12/2005
PW945A OUTSOURCE WAX	006	7/14/2005
PW945A SHP/REC HIP	006	1/17/2006
PW945A SHP/REC MACHINE DM	003	2/6/2006
PW945A VEND CER CORE	002	6/28/2005
PW945A VEND WAX SONIC	001	11/7/2006
PW945V SHP/REC HIP	001	10/26/1999
PW955E SHP/REC MICROWELD	001	12/2/2011
PW957B INJECTION	001	2/9/2009
PW957B OUTSOURCE WAX	001	11/20/2007
PW957B VEND PLASTIC A/F	002	5/28/2009
PW958A VEND PLAST A/F	001	4/19/2005
PW958B INJECTION	001	9/15/2006
PW958B OUTSOURCE WAX	004	10/6/2011
PW958B VEND PLAST A/F	002	2/18/2009
PW958D VEND PLASTIC A/F	001	5/12/2010
PW962A INJECTION	008	4/27/2012
PW962A SHP/REC HIP	007	4/27/2012
PW962A SHP/REC MACHINE HT	003	6/20/2005



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
PW962A SHP/REC MACHINE TM	001	12/9/1999
PW962A VEND BLEND LIMITS	001	8/11/2008
PW962A VEND PLASTC A/F	003	3/8/2005
PW962A VEND VISUAL INSP	001	8/11/2008
PW971A SHP-REC HIP	001	10/7/2008
PW971C SHP/REC HIP	001	12/1/2009
PW971V SHP/REC HIP	001	11/7/2009
PW971W SHP/REC HIP	001	6/19/2010
PWA SUPPLIER FLOWDOWN	003	10/20/2010
PWC SUPPLIER FLOWDOWN	004	8/9/2011
RR SUPPLIER FLOWDOWN	002	1/9/2010
RR363A INJECTION	001	9/30/2005
RR363A SHP/REC HIP	003	11/14/2005
RR386F INJECTION	006	7/22/2005
RR386F OUTSOURCE WAX (DIP READY)	010	4/27/2012
RR386F VEND CER CORE	003	8/2/2011
RR386F VEND PLASTIC A/F	004	8/16/2005
RR415A INJECTION	003	4/30/2003
RR415A LINE CHECK	004	3/6/2003
RR415A OUTSOURCE WAX	003	2/12/2003
RR415A SHP/REC HIP	004	11/3/2010
RR415A SHP/REC MACHINE	004	12/2/2002
RT SUPPLIER FLOWDOWN	002	1/9/2010
RT550B INJECTION	004	10/22/2004
RT550B OUTSOURCE WAX	001	5/27/1999
RT550B SHP/REC HIP	002	5/14/2002
RT647D INJECTION	002	9/30/2003
RT647D OUTSOURCE WAX	002	11/8/2001
RT647D SHP/REC HIP	002	5/14/2002
RT659B INJECTION	003	5/20/2004
RT659B OUTSOURCE WAX	003	2/13/2012
RT659B SHP/REC HIP	002	5/14/2002
SM SUPPLIER FLOWDOWN	001	2/20/2012
SO167B INJECTION	003	7/11/2011
SO167B VEND CER CORE	003	10/27/2010
SO167B VEND QUARTZ	001	5/12/2010
SO438A INJECTION	005	4/30/2012
SO438A OUTSOURCE RAPID PROTO-PATTERN	001	11/3/2010
SO438A SHP/REC HIP	005	9/16/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
SO438V SHP/REC HIP	002	5/21/2010
SO483A INJECTION	008	11/20/2009
SO483A OUTSOURCE WAX	007	12/10/2010
SO483A SHP/REC HIP	001	1/18/2005
SO483A VEND CER CORE	003	9/23/2004
SO483A VEND PLASTIC A/F	001	8/31/2005
SO521B INJECTION	005	10/23/2008
SO521B VEND PLASTIC A/F	002	7/18/2005
SO521C INJECTION	005	10/17/2008
SO521C VEND PLASTIC A/F	002	7/18/2005
SO522C INJECTION	006	10/2/2008
SO522C VEND PLASTIC A/F	003	8/25/2005
SO538A INJECTION	004	12/13/2010
SO538A OUTSOURCE RAPID PROTO-PATTERN	001	11/3/2010
SO538A SHP/REC HIP	007	9/6/2011
SO538V SHP/REC HIP	002	5/21/2010
SO664A INJECTION	005	4/22/2008
SO664A OUTSOURCE WAX	002	7/2/2008
SO664A VEND PLASTIC A/F	001	3/6/2006
SO664B INJECTION	003	5/4/2012
SO664B VEND PLASTIC A/F	003	2/23/2007
SO748A INJECTION	001	2/13/2012
SO748A OUTSOURCE WAX	003	2/14/2012
SO748A SHP/REC EDM	003	5/25/2012
SO748A SHP/REC HIP	001	10/22/2004
SO905A INJECTION	003	6/25/2004
T-1310-BQ VEND CROSSARM	001	5/24/2012
T-157-C VEND HUB	003	12/23/2009
T-157-C1 VEND HUB	002	11/28/2009
T-157-D VEND CROSSARM	003	7/12/2011
T373X VEND WELD CAP	003	5/25/2012
T373Y VEND WELD CAP	003	5/25/2012
T-443-A VEND CROSSARM	005	7/7/2011
T-443-B VEND CROSSARM	005	7/7/2011
T-443-C VEND CROSSARM	005	7/7/2011
T-469-A VEND CROSSARM	005	7/7/2011
T-469-B VEND CROSSARM	005	7/7/2011
T-469-C1 VEND CROSSARM	004	6/24/2011
T-469-C2 VEND CROSSARM	003	6/24/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
T-469-H VEND HUB	003	2/15/2010
T-469-J VEND CROSSARM	003	6/24/2011
T-469-S VEND HUB	003	12/23/2009
T-469-S1 VEND CROSSARM	004	6/24/2011
T-469-S2 VEND HUB	002	12/23/2009
T-469-T VEND CROSSARM	003	6/24/2011
T-469-Y VEND HUB	002	2/15/2010
T-554-B1 VEND CROSSARM	003	6/24/2011
T-554-B2 VEND CROSSARM	003	6/24/2011
T-554-B3 VEND CROSSARM	003	6/24/2011
T-736-A2 VEND CROSSARM	003	8/3/2011
T-736-A3 VEND CROSSARM	004	7/7/2011
T-736-A5 VEND CROSSARM	005	7/7/2011
T-736-A7 VEND CROSSARM	004	7/7/2011
T-736-A8 VEND CROSSARM	003	8/3/2011
T-736-F1 VEND CROSSARM	002	1/20/2010
T-736-F2 VEND CROSSARM	002	2/17/2010
T-736-F3 VEND CROSSARM	002	2/9/2010
T-736-F4 VEND CROSSARM	002	1/20/2010
TC550B INJECTION	003	5/1/2009
TC550B SHP/REC MACHINE DM	005	1/16/2009
TC550B VEND CER CORE	002	5/6/2008
TC550B VEND PLASTIC A/F	004	5/30/2008
TC750B INJECTION	004	7/22/2005
TC750B OUTSOURCE WAX	004	11/18/2008
TC750B VEND CER CORE	003	1/8/2008
TC750B VEND PLASTIC A/F	007	11/28/2009
TR776 VEND CROSSARM	005	6/24/2011
TR777 VEND CROSSARM	005	6/24/2011
TR778 VEND CROSSARM	004	6/24/2011
TR779 VEND CROSSARM	005	6/24/2011
TR780 VEND CROSSARM	004	6/24/2011
TR781 VEND CROSSARM	005	6/24/2011
TR782 VEND CROSSARM	004	6/24/2011
TR783 VEND CROSSARM	004	6/24/2011
TR787 VEND CROSSARM	005	6/24/2011
TR788 VEND CROSSARM	006	6/24/2011
TR789 VEND CROSSARM	006	6/24/2011
TRO 791 VEND WELD CAP	004	6/18/2007



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
TRO 793 VEND WELD CAP	003	6/18/2007
TRO 794 VEND WELD CAP	003	6/18/2007
TRO 795 VEND WELD CAP	003	6/18/2007
TS SUPPLIER FLOWDOWN	002	1/9/2010
TS030A INJECTION	004	2/20/2006
TS030A SHP/REC HIP	002	5/29/2002
TS030A VEND HEAT TREAT	001	9/4/2010
TS030V SHP/REC HIP	002	5/29/2002
TS030V VEND HEAT TREAT	001	9/21/2010
TS038C INJECTION	003	2/27/2008
TS038C SHP/REC HIP	003	5/25/2012
TS038C VEND CHILL	001	4/19/2005
TS038C VEND HEAT TREAT	001	9/21/2010
TS038V SHP/REC HIP	002	5/25/2012
TS038V VEND HEAT TREAT	001	9/21/2010
TS117A INJECTION	004	5/17/2006
TS117A VEND CER CORE	001	11/27/2002
TS379A INJECTION	002	10/18/2002
TS379A SHP/REC HIP	002	5/25/2012
TS379A VEND CHILL	001	2/18/2005
TS379A VEND HEAT TREAT	001	9/21/2010
TS379A VEND PACKING	001	9/14/2005
TS379A VEND SURF FNSH	003	11/8/2005
TS379V SHP/REC HIP	002	5/29/2002
TS379V VEND HEAT TREAT	001	9/21/2010
TS386A INJECTION	004	10/31/2011
TS386A SHP/REC HIP	001	6/5/2009
TS386A VEND HEAT TREAT	001	9/21/2010
TS386A VEND PACKING	001	12/13/2009
TS386A VEND SURF FNSH	001	8/26/2009
TS386V SHP/REC HIP	001	6/12/2009
TS386V VEND HEAT TREAT	001	9/21/2010
TS510A INJECTION	003	10/18/2002
TS510A SHP/REC HIP	004	8/10/2004
TS510A VEND PACKING	002	6/21/2004
TS510A VEND SURF FNSH	002	6/17/2004
TS510V VEND HEAT TREAT	001	9/21/2010
TS510V VEND HEAT TREAT	001	9/21/2010
TS529C INJECTION	003	2/27/2008



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
TS529C VENDOR CHILL	001	4/19/2005
TS644A INJECTION	003	7/29/2004
TS644A VEND PLASTIC A/F	001	3/2/2009
TS805A INJECTION	004	2/28/2003
TS913A INJECTION	002	6/9/2004
TS945A INJECTION	004	1/4/2010
TS945A OUTSOURCE WAX	001	3/8/2005
TS945A SHP/REC HIP	003	8/2/2002
TS945A VEND HEAT TREAT	001	9/21/2010
TS949A INJECTION	003	10/18/2002
TS949A SHP/REC HIP	004	6/5/2002
TS949A VEND CHILL	001	5/30/2003
TS949A VEND HEAT TREAT	001	9/21/2010
TS949V VEND HEAT TREAT	001	9/21/2010
TS960A INJECTION	003	7/29/2004
TS960A SHP/REC HIP	002	6/5/2002
TS960A VEND HEAT TREAT	001	9/21/2010
TS998A INJECTION	003	10/18/2002
TS998A OUTSOURCE WAX	001	3/8/2005
TS998A SHP/REC HIP	003	6/5/2002
TS998A VEND HEAT TREAT	001	9/21/2010
TS998V VEND HEAT TREAT	001	9/21/2010
TUNDISH FILTER	002	3/29/2010
UC001F INJECTION	011	4/30/2012
UC001F SHP/REC MICROWELD	002	3/18/2009
UC001F VEND CER CORE	006	2/3/2010
UC011B INJECTION	008	1/4/2010
UC011B SHP/REC HIP	003	3/26/2012
UC011B SHP/REC MACHINE	003	11/14/2008
UC011V INJECTION	002	4/18/2012
UC011V SHP/REC MACHINE	001	1/8/2001
UC012A INJECTION	009	4/16/2009
UC012A OUTSOURCE WAX (DIP READY)	006	11/20/2008
UC012A SHP/REC HIP	002	5/17/2002
UC012A SHP/REC MICROWELD	002	3/18/2009
UC012A VEND PLASTIC A/F	006	2/24/2009
UC012V SHP/REC HIP	002	5/17/2002
UC022A INJECTION	009	11/11/2010
UC022A OUTSOURCE CORE PREP	001	8/3/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC022A OUTSOURCE WAX	012	10/28/2011
UC022A SHP/REC HIP	004	6/8/2010
UC022A VEND CER CORE	004	11/19/2003
UC022A VEND HEAT TREAT	001	3/17/2008
UC022A VEND LEACH SOLUBLES	001	5/25/2010
UC022A VEND SOLUBLE PREP	001	5/12/2010
UC022A VEND WAX CMM	001	2/24/2012
UC022A VEND WAX SONIC	002	4/29/2010
UC031A INJECTION	003	8/3/2009
UC031A SHP/REC COATING	002	9/1/2006
UC031A SHP/REC MICROWELD	002	3/18/2009
UC031A SHP/REC WELD	001	7/19/2006
UC031A VEND CER CORE	003	2/4/2008
UC032A INJECTION	003	5/2/2012
UC032A OUTSOURCE WAX	006	12/8/2008
UC032A VEND PLASTIC A/F	003	2/24/2009
UC032A VEND SURF FINISH	004	5/13/2008
UC033B INJECTION	003	10/1/2008
UC033B OUTSOURCE WAX	006	1/20/2009
UC033B VEND PLASTIC A/F	004	2/24/2009
UC033B VEND SURF FINISH	002	5/13/2008
UC034A INJECTION	005	5/2/2012
UC034A OUTSOURCE WAX	008	8/18/2010
UC034A VEND SURF FINISH	003	5/13/2008
UC034A VENDOR PLASTIC A/F	004	2/24/2009
UC051C INJECTION	011	4/30/2012
UC051C SHP/REC COATING	002	4/30/2012
UC051C SHP/REC MACHINE	006	11/18/2008
UC051C VEND CER CORE	005	5/4/2012
UC051Q INJECTION	007	12/12/2006
UC051Q SHP/REC COATING	002	2/22/2005
UC051Q SHP/REC MACHINE	005	11/18/2008
UC051T INJECTION	005	12/12/2006
UC051T SHP/REC COATING	001	1/23/2003
UC051T VEND CER CORE	004	5/2/2006
UC054B INJECTION	004	5/2/2012
UC054B OUTSOURCE WAX	006	5/6/2008
UC054B SHP/REC MICROWELD	002	3/18/2009
UC054B VEND PLASTIC A/F	006	5/13/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC062B INJECTION	005	8/3/2009
UC062B SHP/REC MICROWELD	002	3/18/2009
UC062B VEND PLASTIC A/F	004	2/15/2011
UC062C INJECTION	003	8/3/2009
UC062C SHP/REC MICROWELD	002	3/18/2009
UC062C VEND PLASTIC A/F	002	2/24/2009
UC062D INJECTION	010	3/17/2011
UC062D SHP/REC MICROWELD	002	3/18/2009
UC062D VEND PLASTIC A/F	004	2/22/2011
UC096A INJECTION	001	3/2/2006
UC096A VEND CER CORE	003	2/22/2007
UC111B INJECTION	016	5/25/2010
UC111B OUTSOURCE WAX	007	10/21/2010
UC111B SHP/REC FIN/VIS	002	3/31/2006
UC111B SHP/REC MICROWELD	002	3/18/2009
UC111B VEND CER CORE	009	6/23/2009
UC111B VEND CORE PREP	002	6/25/2009
UC111B VEND WAX SONIC	003	6/25/2009
UC111C INJECTION	005	5/25/2010
UC111C SHP/REC COATING	001	2/8/2005
UC111C SHP/REC MICROWELD	002	3/18/2009
UC111C VEND CER CORE	004	3/21/2007
UC111D INJECTION	017	5/25/2010
UC111D OUTSOURCE WAX	007	10/21/2010
UC111D SHP/REC FIN/VIS	002	3/31/2006
UC111D SHP/REC MICROWELD	002	3/18/2009
UC111D VEND CER CORE	008	6/24/2009
UC111D VEND CORE PREP	002	6/25/2009
UC111D VEND WAX SONIC	003	6/25/2009
UC111E INJECTION	004	5/25/2010
UC111E OUTSOURCE CORE PREP	001	4/3/2007
UC111E OUTSOURCE WAX	001	5/10/2006
UC111E SHP/REC COATING	002	2/8/2005
UC111E SHP/REC MICROWELD	002	3/19/2009
UC111E VEND CER CORE	003	3/21/2007
UC111E VEND CORE PREP	001	5/11/2006
UC111E VEND WAX SONIC	001	5/10/2006
UC111F INJECTION	004	5/25/2010
UC111F OUTSOURCE CORE PREP	001	4/3/2007



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC111F OUTSOURCE WAX	001	5/10/2006
UC111F SHP/REC COATING	002	2/8/2005
UC111F SHP/REC MICROWELD	002	3/19/2009
UC111F VEND CER CORE	003	3/21/2007
UC111F VEND CORE PREP	001	5/11/2006
UC111F VEND WAX SONIC	001	5/10/2006
UC111V SHP/REC HIP	001	10/26/1999
UC111Z SHP/REC MACHINE	003	11/18/2008
UC112B INJECTION	005	1/20/2006
UC112B OUTSOURCE WAX (DIP READY)	005	2/9/2006
UC112B VEND PLASTIC A/F	004	2/24/2009
UC151D INJECTION	013	11/28/2007
UC151D SHP/REC COATING	001	2/18/2003
UC151D SHP/REC MACHINE	008	11/11/2008
UC151D VEND CER CORE	005	5/2/2006
UC151E INJECTION	007	10/24/2007
UC151E SHP/REC COATING	001	2/25/2003
UC151E SHP/REC MACHINE	006	11/19/2008
UC151E VEND CER CORE	005	5/2/2006
UC151F INJECTION	007	1/19/2012
UC151F SHP/REC COATING	001	2/18/2003
UC151F VEND CER CORE	004	5/2/2006
UC151G INJECTION	006	10/24/2007
UC151G SHP/REC MACHINE	006	11/19/2008
UC151G VEND CER CORE	002	5/2/2006
UC151H INJECTION	005	10/24/2007
UC151H SHP/REC COAT	001	1/26/2004
UC151H VEND CER CORE	001	1/26/2004
UC151J INJECTION	004	10/24/2007
UC151J SHP/REC COATING	001	6/28/2006
UC151J SHP/REC MACHINE	004	11/18/2008
UC151J VEND CER CORE	001	7/10/2006
UC152A INJECTION	002	3/17/2011
UC152A OUTSOURCE WAX	002	3/7/2011
UC152A SHP/REC MICROWELD	001	5/18/2010
UC152A VEND PLASTIC A/F	001	10/28/2009
UC152B INJECTION	003	3/17/2011
UC152B OUTSOURCE WAX	003	3/7/2011
UC152B SHP/REC MICROWELD	001	5/18/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC152B VEND PLASTIC A/F	001	10/28/2009
UC152E INJECTION	006	3/17/2011
UC152E OUTSOURCE WAX (DIP READY)	006	3/7/2011
UC152E SHP/REC MACHINE	008	11/18/2008
UC152E SHP/REC MICROWELD	002	3/18/2009
UC152E VEND PLASTIC A/F	005	12/17/2009
UC152F INJECTION	009	3/17/2011
UC152F OUTSOURCE WAX (DIP READY)	007	3/7/2011
UC152F SHP/REC MACHINE	010	11/18/2008
UC152F SHP/REC MICROWELD	002	3/18/2009
UC152F VEND PLASTIC A/F	006	5/13/2010
UC152G INJECTION	009	3/17/2011
UC152G OUTSOURCE WAX (DIP READY)	007	3/7/2011
UC152G SHP/REC MACHINE	008	11/18/2008
UC152G SHP/REC MICROWELD	002	3/18/2009
UC152G VEND PLASTIC A/F	007	7/13/2010
UC152M INJECTION	010	5/25/2010
UC152M OUTSOURCE WAX (DIP READY)	006	10/18/2005
UC152M SHP/REC MACHINE	010	11/18/2008
UC152M SHP/REC MICROWELD	002	3/18/2009
UC152M VEND PLASTIC A/F	005	2/24/2009
UC152P INJECTION	006	5/25/2010
UC152P SHP/REC MACHINE	005	10/24/2007
UC152P SHP/REC MICROWELD	002	3/18/2009
UC152P VEND PLASTIC A/F	003	2/24/2009
UC152Q INJECTION	006	3/17/2011
UC152Q OUTSOURCE WAX	002	3/7/2011
UC152Q SHP/REC MICROWELD	002	3/18/2009
UC152Q VEND PLASTIC A/F	004	3/3/2010
UC152R INJECTION	006	3/4/2011
UC152R OUTSOURCE WAX	004	3/4/2011
UC152R SHP/REC MICROWELD	002	3/18/2009
UC152R VEND PLASTIC A/F	003	2/1/2010
UC152T INJECTION	004	1/20/2006
UC152T OUTSOURCE WAX	001	2/19/2010
UC152T SHP/REC MICROWELD	002	3/20/2009
UC152T VEND PLASTIC A/F	003	2/1/2010
UC161H INJECTION	008	8/3/2009
UC161H SHP/REC COATING	001	1/23/2003



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC161H SHP/REC MICROWELD	002	3/19/2009
UC161H SHP/REC WELD	002	5/12/2006
UC161H VEND CER CORE	008	2/4/2008
UC161P INJECTION	008	6/15/2011
UC161P SHP/REC COATING	002	10/7/2005
UC161P SHP/REC MACHINE	003	1/31/2005
UC161P SHP/REC MICROWELD	002	3/19/2009
UC161P SHP/REC WELD	002	5/12/2006
UC161P VEND CER CORE	006	2/4/2008
UC161Q INJECTION	004	8/3/2009
UC161Q SHP/REC MICROWELD	002	3/19/2009
UC161Q VEND CER CORE	006	2/4/2008
UC161T INJECTION	006	6/15/2011
UC161T SHP/REC MICROWELD	002	3/19/2009
UC161T VEND CER CORE	005	2/4/2008
UC161V SHP/REC WELD	001	4/23/2012
UC172B INJECTION	004	12/22/2010
UC172B OUTSOURCE WAX	004	3/15/2012
UC172B OUTSOURCE WAX CMM	002	12/15/2011
UC202A INJECTION	005	4/20/2012
UC202A OUTSOURCE WAX	006	4/19/2012
UC202A VEND BLEND LIMITS	001	10/17/2008
UC202A VEND PLASTIC A/F	005	2/24/2009
UC202A VEND SURF FNSH	002	5/13/2008
UC202A VEND VISUAL INSP	001	10/27/2008
UC203B INJECTION	005	4/30/2012
UC203B OUTSOURCE WAX	006	1/8/2009
UC203B VEND PLASTIC A/F	004	2/24/2009
UC203B VEND SURF FNSH	002	5/13/2008
UC204D INJECTION	006	3/18/2008
UC204D OUTSOURCE WAX	007	1/8/2009
UC204D VEND PLASTIC A/F	004	2/23/2009
UC204D VEND SURF FNSH	002	5/13/2008
UC214A INJECTION	013	11/8/2011
UC214A SHP/REC MICROWELD	002	3/18/2009
UC214A VEND PLASTIC A/F	007	7/31/2009
UC224B INJECTION	001	3/17/2011
UC224B OUTSOURCE WAX	001	3/24/2011
UC224B SHP/REC MICROWELD	001	3/17/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC224B VEND PLASTIC A/F	002	5/16/2011
UC231A INJECTION	001	8/3/2009
UC231A SHP/REC MACHINE	003	1/31/2005
UC231A VEND CER CORE	001	7/7/2006
UC231B INJECTION	004	7/7/2009
UC231B SHP/REC MACHINE	007	11/18/2008
UC231B SHP/REC MICROWELD	001	11/7/2011
UC231B VEND CER CORE	001	7/7/2006
UC231C INJECTION	002	2/20/2004
UC231C VEND CER CORE	001	7/7/2006
UC251B INJECTION	002	7/21/2004
UC251B OUTSOURCE WAX	004	3/18/2010
UC251B SHP/REC MICROWELD	002	3/19/2009
UC251B VEND CER CORE	002	8/31/1999
UC251B VEND CORE PREP	001	10/17/2008
UC251B VEND WAX SONIC	001	11/18/2008
UC251E INJECTION	002	7/21/2004
UC251E VEND CER CORE	001	11/15/1999
UC252E INJECTION	004	6/5/2010
UC252E OUTSOURCE WAX (DIP READY)	008	5/21/2010
UC252E SHP/REC MACHINE	003	1/24/2005
UC252E VEND PLASTIC A/F	007	5/13/2010
UC252H INJECTION	003	8/16/2004
UC252H VEND PLASTIC A/F	005	2/23/2009
UC255B INJECTION	003	7/22/2005
UC255B OUTSOURCE WAX (DIP READY)	001	2/18/2004
UC255B SHP/REC COATING	001	2/27/2004
UC255B SHP/REC MICROWELD	002	3/18/2009
UC255B VEND PLASTIC A/F	002	7/22/2005
UC321A INJECTION	004	2/18/2009
UC331A INJECTION	006	10/7/2004
UC331A OUTSOURCE WAX	006	10/12/2005
UC331A VEND PLASTIC A/F	003	10/6/2004
UC331A VEND SURF FNSH	001	4/16/2012
UC333F INJECTION	003	7/21/2004
UC333F OUTSOURCE WAX	004	5/1/2001
UC333F VEND SURF FNSH	001	5/18/1999
UC334E INJECTION	003	7/21/2004
UC334E OUTSOURCE WAX	003	5/1/2001



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC334E VEND SURF FNSH	001	5/18/1999
UC340E INJECTION	001	3/18/1999
UC340E OUTSOURCE WAX	002	5/1/2001
UC340E SHP/REC MACHINE	002	1/6/2005
UC340E VEND SURF FNSH	001	5/18/1999
UC352D INJECTION	004	5/16/2011
UC352D VEND PLASTIC A/F	002	8/11/2004
UC361A INJECTION	004	10/27/2006
UC361A OUTSOURCE WAX	003	11/9/2006
UC361A VEND CER CORE	001	4/12/1999
UC361B OUTSOURCE WAX	001	2/11/2005
UC361C OUTSOURCE WAX	001	2/11/2005
UC372B INJECTION	004	4/4/2012
UC372B Vend Plastic A/F	002	10/3/2011
UC372D INJECTION	007	8/8/2005
UC372D VEND PLASTIC A/F	004	11/9/2011
UC420B INJECTION	010	3/2/2010
UC420B SHP/REC HIP	005	6/8/2011
UC420B SHP/REC MICROWELD	002	3/31/2009
UC420B VEND CER CORE (CERTECH T979C)	006	3/2/2004
UC420B VEND CER CORE(DAI EXTRUDED CORE)	004	8/5/2002
UC451D INJECTION	010	4/22/2008
UC451D OUTSOURCE WAX	009	7/22/2010
UC451D SHP/REC MICROWELD	002	3/19/2009
UC451D VEND CER CORE	008	8/30/2005
UC451D VEND CORE PREP	001	5/6/2008
UC451D VEND WAX SONIC	001	4/30/2008
UC451F INJECTION	008	5/29/2010
UC451F SHP/REC COATING	001	4/27/2005
UC451F SHP/REC MACHINE	004	11/18/2008
UC451F VEND CER CORE	010	4/5/2007
UC451F VEND CORE PREP	002	7/8/2008
UC451F VEND WAX SONIC	001	4/16/2012
UC451G INJECTION	006	8/19/2009
UC451G OUTSOURCE CORE PREP	001	2/14/2007
UC451G OUTSOURCE WAX	003	10/13/2008
UC451G SHP/REC HIP	002	6/8/2010
UC451G SHP/REC MACHINE	004	11/18/2008
UC451G SHP/REC MICROWELD	002	3/19/2009



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC451G VEND CER CORE	001	9/28/2011
UC451G VEND CER CORE	011	5/18/2010
UC451G VEND WAX SONIC	001	2/19/2007
UC451J INJECTION	006	8/19/2009
UC451J OUTSOURCE CORE PREP	001	2/14/2007
UC451J OUTSOURCE WAX	003	10/13/2008
UC451J SHP/REC COATING	005	3/28/2008
UC451J SHP/REC HIP	002	6/8/2010
UC451J SHP/REC MICROWELD	002	3/19/2009
UC451J VEND CER CORE	008	5/18/2010
UC451J VEND WAX SONIC	001	2/19/2007
UC451K INJECTION	005	5/29/2010
UC451K SHP/REC COATING	001	12/23/2009
UC451K VEND CER CORE	007	4/5/2007
UC451K VEND CORE PREP	001	2/1/2010
UC452T INJECTION	006	5/25/2010
UC452T OUTSOURCE WAX	001	7/2/2003
UC452T VEND PLASTIC A/F	003	8/2/2005
UC452Y INJECTION	006	8/3/2009
UC452Y OUTSOURCE WAX	001	7/2/2003
UC452Y VEND PLASTIC A/F	003	8/2/2005
UC453J INJECTION	008	4/5/2008
UC453J SHP/REC MACHINE	005	11/18/2008
UC453J SHP/REC MICROWELD	002	4/1/2009
UC453J VEND PLASTIC A/F	006	5/13/2010
UC453K INJECTION	007	5/2/2012
UC453K OUTSOURCE WAX	008	11/9/2011
UC453K SHP/REC MACHINE	006	11/18/2008
UC453K SHP/REC MICROWELD	002	3/19/2009
UC453K VEND PLASTIC A/F	005	2/23/2009
UC453L INJECTION	009	5/25/2010
UC453L OUTSOURCE WAX DIPREADY	009	3/3/2010
UC453L SHP/REC MACHINE	006	11/18/2008
UC453L SHP/REC MICROWELD	002	3/19/2009
UC453L VEND PLASTIC A/F	007	2/23/2009
UC453M INJECTION	010	10/3/2011
UC453M OUTSOURCE WAX DIPREADY	009	3/3/2010
UC453M SHP/REC MACHINE	006	11/18/2008
UC453M SHP/REC MICROWELD	002	3/19/2009



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC453M VEND PLASTIC A/F	006	2/23/2009
UC453N INJECTION	006	4/12/2010
UC453N OUTSOURCE WAX	004	3/3/2010
UC453N SHP/REC MICROWELD	002	3/19/2009
UC453N VEND PLASTIC A/F	004	2/1/2010
UC453P INJECTION	007	2/24/2010
UC453P OUTSOURCE WAX	004	3/3/2010
UC453P SHP/REC MICROWELD	002	3/19/2009
UC453P VEND PLASTIC A/F	004	2/1/2010
UC453Q INJECTION	005	5/23/2012
UC453Q OUTSOURCE WAX (DIP-READY)	005	11/9/2011
UC453Q SHP/REC MICROWELD	002	3/19/2009
UC462C INJECTION	005	7/7/2009
UC462C SHP/REC CNC	002	11/18/2008
UC462C SHP/REC COATING	001	7/25/2005
UC462C SHP/REC EDM	002	10/18/2006
UC462C SHP/REC MACHINE	003	11/18/2008
UC462C SHP/REC MICROWELD	001	3/8/2007
UC462C VEND CER CORE	005	2/1/2007
UC462G INJECTION	002	7/7/2009
UC462G SHP/REC CNC	002	11/21/2008
UC462G SHP/REC EDM	002	4/23/2012
UC462G SHP/REC MICROWELD	002	3/19/2009
UC462G VEND CER CORE	002	4/16/2012
UC472A INJECTION	005	4/30/2012
UC472A OUTSOURCE WAX	007	2/24/2009
UC472A VEND PLASTIC A/F	004	2/23/2009
UC472A VEND SURF FNSH	002	5/13/2008
UC473A INJECTION	008	4/5/2010
UC473A OUTSOURCE WAX	007	3/18/2010
UC473A VEND PLASTIC A/F	004	3/5/2009
UC473A VEND SURF FNSH	002	5/13/2008
UC475A INJECTION	003	7/22/2004
UC502A INJECTION	003	5/12/2006
UC502A SHP/REC MICROWELD	002	3/19/2009
UC502A VEND PLASTIC A/F	002	2/4/2008
UC541A INJECTION	001	9/6/2011
UC541A SHP/REC MICROWELD	001	7/5/2011
UC541A VEND CER CORE	001	9/6/2011



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC551D INJECTION	002	7/17/2003
UC551D VEND CER CORE	007	12/6/2007
UC551F INJECTION	002	7/22/2004
UC551F VEND CER CORE	009	4/5/2007
UC551F VEND WAX SONIC	001	9/27/1999
UC551H INJECTION	003	7/26/2004
UC551H OUTSOURCE WAX	004	1/4/2010
UC551H SHP/REC COATING	002	2/9/2005
UC551H SHP/REC MACHINE	003	2/1/2005
UC551H VEND CER CORE	002	5/26/1999
UC551H VEND WAX SONIC	001	9/27/1999
UC551Q INJECTION	001	2/1/2005
UC551Q OUTSOURCE WAX	002	1/4/2010
UC551Q SHP/REC COATING	002	2/9/2005
UC551Q VEND CER CORE	001	2/1/2005
UC551Q VEND WAX SONIC	001	2/1/2005
UC552A INJECTION	006	3/10/2011
UC552A OUTSOURCE WAX (DIP READY)	005	3/10/2011
UC552A VEND PLASTIC A/F	005	5/26/2010
UC552ASHP/REC MICROWELD	002	3/19/2009
UC552F INJECTION	005	5/25/2010
UC552F OUTSOURCE WAX	002	6/4/2003
UC552F VEND PLASTIC A/F	003	8/10/2005
UC553A INJECTION	007	1/10/2008
UC553A OUTSOURCE WAX (DIPREADY)	003	2/14/2008
UC553A VEND PLASTIC A/F	008	2/24/2009
UC553J INJECTION	011	4/15/2008
UC553J SHP/REC MACHINE	005	11/6/2008
UC553J SHP/REC MICROWELD	002	3/19/2009
UC553J VEND PLASTIC A/F	005	2/24/2009
UC553K INJECTION	007	4/5/2010
UC553K SHP/REC MICROWELD	002	3/19/2009
UC553K VEND PLASTIC A/F	003	4/13/2010
UC553V INJECTION	003	7/30/2004
UC567A INJECTION	013	6/21/2010
UC567A SHP/REC HIP	002	6/8/2010
UC567A SHP/REC MICROWELD	003	3/19/2009
UC567A VEND CER CORE (LARGE)	001	5/6/2002
UC567A VEND CER CORE (SMALL)	002	9/17/2003



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC604A INJECTION	008	1/28/2009
UC604A OUTSOURCE WAX	009	1/28/2009
UC604A VEND PLASTIC A/F	005	2/24/2009
UC604A VEND SURF FNSH	002	5/13/2008
UC651B INJECTION	001	12/9/2004
UC651B OUTSOURCE WAX	002	2/4/2010
UC651B SHP/REC MICROWELD	002	3/19/2009
UC651B VEND PLASTIC A/F	002	2/1/2010
UC651E INJECTION	003	8/8/2005
UC651E SHP/REC COATING	002	10/15/2010
UC651E SHP/REC MACHINE	004	11/19/2008
UC651E SHP/REC MICROWELD	002	3/19/2009
UC651E VEND PLASTIC A/F	004	11/30/2010
UC651Q INJECTION	004	8/22/2007
UC651Q OUTSOURCE WAX	006	8/22/2007
UC651Q SHP/REC COATING	001	1/29/2003
UC651Q SHP/REC MACHINE	005	11/18/2008
UC651Q SHP/REC MICROWELD	002	3/20/2009
UC651Q VEND PLASTIC A/F	004	2/23/2009
UC653B INJECTION	006	1/20/2006
UC653B OUTSOURCE WAX (DIPREADY)	003	5/1/2006
UC653B VEND PLASTIC A/F	005	5/13/2010
UC692A INJECTION	009	5/25/2010
UC692A OUTSOURCE WAX (DIPREADY)	010	9/7/2005
UC692A SHP/REC MICROWELD	002	3/20/2009
UC692A VEND PLASTIC A/F	005	2/18/2009
UC692B INJECTION	008	5/25/2010
UC692B OUTSOURCE WAX	012	9/3/2008
UC692B SHP/REC MICROWELD	002	3/20/2009
UC692B VEND PLASTIC A/F	004	2/18/2009
UC692C INJECTION	008	5/25/2010
UC692C OUTSOURCE WAX	005	9/3/2008
UC692C VEND PLASTIC A/F	004	8/28/2008
UC701A INJECTION	004	8/31/2004
UC701A OUTSOURCE WAX	005	11/9/2005
UC701A VEND PLASTIC A/F	003	8/18/2004
UC701A VEND SURF FNSH	002	5/13/2008
UC716C INJECTION	008	5/11/2004
UC716C SHP/REC HIP	002	6/8/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC716C VEND CER CORE	008	8/17/2006
UC716V VEND CER CORE	001	4/29/2002
UC742A INJECTION	005	5/18/2012
UC742A SHP/REC MICROWELD	002	3/20/2009
UC742A VENDOR PLASTIC A/F	004	7/24/2007
UC751E INJECTION	006	8/6/2009
UC751E OUTSOURCE CORE PREP	001	2/14/2007
UC751E OUTSOURCE WAX	003	10/20/2008
UC751E SHP/REC MACHINE	004	11/6/2008
UC751E SHP/REC HIP	002	6/8/2010
UC751E SHP/REC MICROWELD	002	3/19/2009
UC751E VEND CER CORE	011	5/18/2010
UC751E VEND WAX SONIC	001	2/19/2007
UC751F INJECTION	005	8/6/2009
UC751F OUTSOURCE CORE PREP	001	2/14/2007
UC751F OUTSOURCE WAX	003	10/20/2008
UC751F SHP/REC COATING	003	10/7/2005
UC751F SHP/REC HIP	002	6/8/2010
UC751F SHP/REC MICROWELD	002	3/19/2009
UC751F VEND CER CORE	008	5/18/2010
UC751F VEND WAX SONIC	001	2/19/2007
UC751G INJECTION	006	8/6/2009
UC751G OUTSOURCE CORE PREP	001	2/14/2007
UC751G OUTSOURCE WAX	004	3/15/2012
UC751G SHP/REC HIP	002	6/8/2010
UC751G SHP/REC MICROWELD	002	3/19/2009
UC751G VEND CER CORE	008	5/18/2010
UC751G VEND WAX SONIC	001	2/19/2007
UC752H INJECTION	006	3/30/2011
UC752H VEND PLASTIC A/F	007	3/17/2011
UC752K INJECTION	009	1/5/2010
UC752K OUTSOURCE WAX (DIPREADY)	015	5/3/2011
UC752K SHP/REC MICROWELD	002	3/20/2009
UC752K VEND PLASTIC A/F	006	12/17/2009
UC752M INJECTION	005	1/5/2010
UC752M OUTSOURCE WAX (DIPREADY)	006	2/17/2011
UC752M SHP/REC MICROWELD	002	3/20/2009
UC752M VEND PLASTIC A/F	005	12/17/2009
UC753A INJECTION	007	1/5/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC753A OUTSOURCE WAX	010	3/25/2009
UC753A VEND PLASTIC A/F	008	12/17/2009
UC753B INJECTION	007	1/5/2010
UC753B OUTSOURCE WAX (DIPREADY)	012	3/25/2009
UC753B VEND PLASTIC A/F	006	12/17/2009
UC753D INJECTION	001	9/8/2009
UC753D OUTSOURCE WAX	001	9/8/2009
UC753D VEND PLASTIC A/F	002	10/30/2009
UC753E INJECTION	001	9/8/2009
UC753E VEND PLASTIC A/F	001	8/24/2009
UC776A INJECTION	007	1/4/2010
UC776A OUTSOURCE WAX	006	1/4/2010
UC776A VEND CER CORE	009	1/21/2009
UC776A VEND CORE PREP	002	12/11/2008
UC776A VEND WAX SONIC	001	4/30/2008
UC776Q INJECTION	007	1/4/2010
UC776Q OUTSOURCE WAX	006	1/4/2010
UC776Q VEND CER CORE	009	1/21/2009
UC776Q VEND WAX SONIC	001	4/30/2008
UC776Q VENDOR CORE PREP	002	12/11/2008
UC802A INJECTION	002	4/27/2012
UC802A VEND PLASTIC A/F	003	4/27/2012
UC851F INJECTION	006	8/6/2009
UC851F OUTSOURCE CORE PREP	001	2/14/2007
UC851F OUTSOURCE WAX	003	6/2/2010
UC851F SHP/REC COATING	001	2/8/2005
UC851F SHP/REC HIP	002	6/8/2010
UC851F SHP/REC MACHINE	004	11/18/2008
UC851F SHP/REC MICROWELD	002	3/23/2009
UC851F VEND CER CORE	011	5/18/2010
UC851F VEND WAX SONIC	001	2/19/2007
UC851G INJECTION	003	4/30/2012
UC851G SHP/REC COATING	001	4/30/2012
UC851G SHP/REC HIP	003	6/8/2010
UC851G SHP/REC MICROWELD	002	3/23/2009
UC851G VEND CER CORE	001	4/16/2012
UC851H INJECTION	003	10/30/2009
UC851H SHP/REC MACHINE	003	11/18/2008
UC851H VEND CER CORE	007	4/1/2007



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC851H VEND WAX SONIC	001	5/20/2004
UC851J INJECTION	002	7/9/2009
UC851J VEND CER CORE	007	4/5/2007
UC851Q INJECTION	003	8/6/2009
UC851Q OUTSOURCE CORE PREP	001	2/14/2007
UC851Q OUTSOURCE WAX	002	4/27/2007
UC851Q SHP/REC COATING	004	11/29/2004
UC851Q SHP/REC HIP	002	6/8/2010
UC851Q SHP/REC MICROWELD	002	3/23/2009
UC851Q VEND CER CORE	008	5/18/2010
UC851Q VEND WAX SONIC	001	2/19/2007
UC851T INJECTION	002	7/9/2009
UC851T SHP/REC COATING	001	2/2/2010
UC851T VEND CER CORE	007	4/5/2007
UC851V SHP/REC HIP	002	6/8/2010
UC851Y INJECTION	009	10/30/2009
UC851Y SHP/REC COATING	001	4/27/2005
UC851Y SHP/REC MACHINE	005	11/18/2008
UC851Y VEND CER CORE	009	4/10/2007
UC851Y VEND WAX SONIC	001	9/29/1999
UC864D INJECTION	003	6/16/2004
UC864D SHP/REC HIP	003	11/15/2007
UC864D SHP/REC MACHINE	002	2/10/2006
UC864D SOLUBLE PREP	001	3/8/1999
UC864D VEND CER CORE	003	8/26/2002
UC864V SHP/REC HIP	001	10/26/1999
UC864V SHP/REC MACHINE	001	1/10/2000
UC871A INJECTION	008	7/9/2009
UC871A SHP/REC MICROWELD	002	3/23/2009
UC871A VEND CER CORE	007	1/15/2009
UC871B INJECTION	005	7/9/2009
UC871B SHP/REC MICROWELD	002	3/23/2009
UC871B VEND CER CORE	003	2/20/2006
UC871C SHP/REC MICROWELD	002	3/23/2009
UC871C VEND CER CORE	003	2/20/2006
UC905A INJECTION	003	12/12/2006
UC905A SHP/REC MACHINE	004	11/11/2008
UC905A VEND CER CORE	001	1/9/2004
UC916B INJECTION	005	4/11/2012



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC916B SHP/REC MACHINE	001	4/11/2012
UC916B VEND CER CORE	002	4/11/2012
UC921A INJECTION	006	5/19/2008
UC921A SHP/REC MICROWELD	002	3/24/2009
UC921A VEND CER CORE	001	8/10/2005
UC937A INJECTION	012	11/1/2010
UC937A SHP/REC MACHINE	004	11/18/2008
UC937A VEND CER CORE (DAI CCT1466N)	003	5/4/2012
UC937A VEND CER CORE(CERTECH CCT1466R)	006	10/2/2009
UC951B INJECTION	007	8/6/2009
UC951B OUTSOURCE CORE PREP	001	2/14/2007
UC951B OUTSOURCE WAX	004	4/15/2011
UC951B SHP/REC COATING	001	4/27/2005
UC951B SHP/REC HIP	002	6/8/2010
UC951B SHP/REC MACHINE	008	11/18/2008
UC951B SHP/REC MICROWELD	002	3/24/2009
UC951B VEND CER CORE	011	5/18/2010
UC951B VEND WAX SONIC	001	2/19/2007
UC951D INJECTION	004	8/6/2009
UC951D OUTSOURCE CORE PREP	001	2/14/2007
UC951D OUTSOURCE WAX	003	6/18/2007
UC951D SHP/REC COATING	003	10/26/2004
UC951D SHP/REC HIP	002	6/8/2010
UC951D SHP/REC MICROWELD	002	3/24/2009
UC951D VEND CER CORE	008	5/18/2010
UC951D VEND WAX SONIC	001	2/19/2007
UC951E INJECTION	001	2/24/2011
UC951E OUTSOURCE CORE PREP	001	2/24/2011
UC951E OUTSOURCE WAX	002	4/15/2011
UC951E SHP/REC HIP	001	5/25/2011
UC951E SHP/REC MICROWELD	001	6/22/2011
UC951E VEND CER CORE	001	2/24/2011
UC951E VEND WAX SONIC	001	2/24/2011
UC951Q INJECTION	008	8/6/2009
UC951Q OUTSOURCE CORE PREP	001	4/30/2012
UC951Q OUTSOURCE WAX	003	10/8/2008
UC951Q SHP/REC HIP	002	6/8/2010
UC951Q SHP/REC MACHINE	005	4/30/2012
UC951Q SHP/REC MICROWELD	002	3/24/2009



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC951Q VEND CER CORE	011	5/18/2010
UC951Q VEND WAX SONIC	001	4/30/2012
UC951T INJECTION	009	8/6/2009
UC951T OUTSOURCE WAX	005	1/29/2009
UC951T SHP/REC HIP	002	6/8/2010
UC951T SHP/REC MICROWELD	002	3/24/2009
UC951T VEND CER CORE	011	5/18/2010
UC951T VEND CORE PREP	001	2/13/2009
UC951T VEND WAX SONIC	002	1/21/2009
UC951V SHP/REC HIP	002	6/8/2010
UC951Y INJECTION	005	8/6/2009
UC951Y OUTSOURCE CORE PREP	001	2/14/2007
UC951Y OUTSOURCE WAX	002	4/26/2007
UC951Y SHP/REC COATING	003	10/26/2004
UC951Y SHP/REC HIP	002	6/8/2010
UC951Y SHP/REC MICROWELD	002	3/24/2009
UC951Y VEND CER CORE	007	5/18/2010
UC951Y VEND WAX SONIC	001	2/19/2007
UC952B INJECTION	010	8/3/2009
UC952B OUTSOURCE WAX (DIP READY)	014	7/21/2011
UC952B SHP/REC MACHINE	005	11/18/2008
UC952B VEND PLASTIC A/F	007	10/5/2009
UC952D INJECTION	008	1/5/2010
UC952D OUTSOURCE WAX (DIP READY)	011	7/21/2011
UC952D SHP/REC MACHINE	004	11/18/2008
UC952D VEND PLASTIC A/F	006	12/17/2009
UC952E INJECTION	010	1/5/2010
UC952E OUTSOURCE WAX (DIP READY)	011	7/21/2011
UC952E SHP/REC MACHINE	004	11/18/2008
UC952E VEND PLASTIC A/F	008	12/17/2009
UC952J INJECTION	009	8/18/2011
UC952J SHP/REC MACHINE	004	11/18/2008
UC952J VEND PLASTIC A/F	005	8/7/2009
UC952K INJECTION	004	8/3/2009
UC952K SHP/REC MACHINE	004	11/18/2008
UC952K VEND PLASTIC A/F	005	8/7/2009
UC952P INJECTION	006	2/18/2010
UC952P OUTSOURCE WAX (DIP READY)	006	7/21/2011
UC952P VEND PLASTIC A/F	004	5/13/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
UC952R INJECTION	006	1/5/2010
UC952R OUTSOURCE WAX	006	7/21/2011
UC952R VEND PLASTIC A/F	003	12/17/2009
UC952T INJECTION	006	4/5/2010
UC952T OUTSOURCE WAX	006	7/21/2011
UC952T VEND PLASTIC A/F	003	3/1/2010
UC952Y INJECTION	005	8/18/2011
UC952Y VEND PLASTIC A/F	003	2/1/2010
UC954K INJECTION	004	1/20/2006
UC954K OUTSOURCE WAX (DIP READY)	005	3/26/2007
UC954K VEND PLASTIC A/F	005	2/23/2009
UC965A INJECTION	005	3/23/2011
UC965A OUTSOURCE WAX (DIPREADY)	006	5/3/2011
UC965A SHP/REC MACHINE TM	006	3/17/2011
UC995A INJECTION	003	1/5/2010
UC995A OUTSOURCE WAX	006	7/21/2011
UC995A VEND PLASTIC A/F	005	12/17/2009
UC998A INJECTION	002	6/9/2004
UC998A VEND CER CORE	003	11/19/2007
VEND PLASTIC A/F	001	9/13/2008
VEND TANK WHEEL FILTER	001	1/6/2011
VK622V SHP/REC HIP	001	10/12/2010
VR009A INJECTION	001	12/3/2009
VR009A OUTSOURCE FIN/VIS	001	3/18/2010
VR009A VEND CER CORE	002	12/3/2009
VR010A INJECTION	001	11/11/2011
VR010A SHP-REC EDM	001	5/16/2012
VR010A VEND PLASTIC A/F	002	2/1/2012
VR123A INJECTION	001	5/4/2011
VR123A OUTSOURCE WAX	001	5/3/2011
VR123A VEND PLASTIC A/F	001	5/4/2011
VR124A INJECTION	001	11/11/2011
VR124A SHP-REC EDM	001	5/14/2012
VR124A VEND PLASTIC A/F	001	11/9/2011
VR172A INJECTION	001	8/3/2009
VR172A OUTSOURCE WAX	001	4/7/2011
VR172A VEND BLEND LIMITS	001	4/30/2012
VR172A VEND VISUAL INSP	001	4/30/2012
VR497A INJECTION	001	4/12/2010



External Supplier Work Instructions (HLC)

DOCUMENT NAME	REVISION	RELEASE DATE
VR497A OUTSOURCE FIN/VIS	001	4/17/2010
VR497A OUTSOURCE WAX	001	4/17/2010
VR497A VEND CER CORE	001	3/18/2010
VR497A VEND WAX SONIC	001	3/18/2010